Statistical Report

DEPARTMENT OF HEALTH
STATE OF HAWAII

1988

S2065-1-U

STATISTICAL SUPPLEMENT

DEPARTMENT OF HEALTH

STATE OF HAWAII

This is the statistical supplement to the narrative report published in a separate volume.

Anyone needing additional information may write directly to the program concerned.

1988*

JOHN WAIHEE, Governor

John C. Lewin, M.D., Director of Health
Calvin T. Masaki, B.S., M.B.A., Deputy Director of Health
Peter S. Sybinsky, B.A., Ph.D., Deputy Director for Planning, Legislation and Operation
Jerry Walker, B.S., M.B.A., Deputy Director of County/State Hospitals
Bruce Anderson, M.P.H., Ph.D., Deputy Director of Environmental Health

Cover photo by George H. Tokuyama, State Registrar
Photograph of a dragon seen at a Chinese parade

Department of Health
Research and Statistics Office
P.O. Box 3378
Honolulu, Hawaii 96801

*Unless otherwise stated, data included in this report are for the calendar year 1988. Publication date, December 1989.

	Page
Administrative Staff	iv
Research and Statistics Office	
Vital Statistics	
Summary	2
Population	8
Figure 1, Births Occurring in Hawaii, 1900-1986	9
Live Births	10
Illegitimate Live Births	22
Figure 2, Deaths Occurring in Hawaii, 1900-1986	25
Deaths	26
Figure 3, Infant Deaths Occurring in Hawaii, 1900-1986	50
Infant Deaths	51
Standard Fetal Deaths	52
Elective Abortions	54
Marriages	57
Divorces and Annulments	67
Hawaii Tumor Registry	71
Health Surveillance Program (Will be published separately.)	
Health Promotion and Education Office	75
Hawaii State Health Planning and Development Agency	87
Communicable Disease Division	
Epidemiology Branch	96
Hansen's Disease Community Program	106
Tuberculosis Branch	113
Dental Health Division	121
Environmental Protection and Health Services Division	
Pollution Investigation and Enforcement Branch	123
Wastewater Treatment Works Construction Grants Branch	126
Environmental Permits Branch	127
Sanitation Branch	128
Vector Control Branch	142
Litter Control Program	148
Hazardous Waste Program	151
Family Health Services Division	
Summary	153
Maternal and Child Health Branch	159
Children With Special Health Needs Branch	163
School Health Branch	164
Medical Health Services Division	
Chronic Disease Branch	168
Emergency Medical Services Branch	175
Laboratories Branch	176
Public Health Nursing Branch	183
Nutrition Branch	190
Hospital and Medical Facilities Branch	194
Mental Health Division	198
Refugee Screening Project	209
Waimano Training School and Hospital Division	214

Director of Health ..... JOHN C. LEWIN, M.D.

Deputy Director of Health ..... CALVIN T. MASAKI, B.S., M.B.A.

Deputy Director for Planning, Legislation and Operation..... PETER S. SYBINSKY, B.A., Ph.D.

Deputy Director of County/State Hospitals ..... JERRY WALKER, B.S., M.B.A.

Deputy Director, Environmental Health ..... BRUCE ANDERSON, M.P.H., Ph.D.

Administrative Assistant ..... FAY NAKAMOTO, B.S., M.P.H.

Chief, Administrative Services Office ..... VALERIE AKO, B.B.A., M.B.A.

Personnel Officer ..... HENRY TAKESHITA, B.A.

Health Education Officer ..... CHRISTINE LING, Ed.B., M.P.H.

Health Information Systems Office (Acting)..... LILY SHIGEZAWA

Comprehensive Health Planning Officer ..... KINAU KAMALII

Chief, Research and Statistics Office ..... Vacant
State Registrar of Vital Statistics and Assistant Chief ... GEORGE H. TOKUYAMA, M.P.H., M.B.A.

Chief, Communicable Disease Division (Acting) ..... ROBERT M. WORTH, M.D., Ph.D., M.P.H.
Public Health Veterinarian (Acting) ..... DAVID M. SASAKI, D.V.M., M.P.H.
Chief, Epidemiology Branch (Acting) ..... EUGENE W. PON, M.D., M.P.H.
Chief, Hale Mohalu Hospital Branch ..... ERIDA REICHERT, M.D.
Chief, Kalaupapa Settlement Branch (Acting) ..... PATRICK HARTMAN, B.S.E., M.D.
Chief, Tuberculosis Branch ..... RICHARD FRANKEL, M.D.

Chief, Dental Health Division (Acting)..... MARK GREER, D.M.D., M.P.H.
Chief, Dental Hygiene Branch ..... JOYCE H. HARA, D.H.C.
Chief, Hospital Dentistry and Community Services Branch ..... VACANT

Chief, Developmental Disabilities Division (Acting) ..... ETHEL YAMANE, M.S.W., M.P.H.
Chief, Community Services for
Developmentally Disabled Branch (Acting) ..... STANLEY YEE, B.F.A., M.S.W.
Chief, Waimano Training School and Hospital Branch ..... LOIS SUENISHI, B.E.D., M.A.

Chief, Environmental Protection and Health Services Division (Acting). JAMES K. IKEDA, B.S.,M.S.
Chief, Pollution Investigation and Enforcement Branch ..... PAUL F. AKI, B.A.
Chief, Office of Narcotics Enforcement ..... JEROME ESTAVILLO
Chief, Noise and Radiation Branch ..... THOMAS M. ANAMIZU
Chief, Wastewater Treatment Works Construction Grants Branch ..... DENNIS TULANG, M.S.C.E.
Chief, Environmental Permits Branch ..... DENNIS LAU, B.S.
Chief, Sanitation Branch ..... KENNETH FUJII, B.A.
Chief, Vector Control Branch (Acting) ..... GEORGE KOMATSU, B.S.
Administrator, Litter Control Program ..... CLYDE B. MORITA, M.S., P.E.

Chief, Family Health Services Division ..... FRANCES D. RIGGS, M.D., M.P.H.
Chief, Children with Special Health Needs Branch ..... ALAN TANIGUCHI, M.D., M.P.H.
Chief, Maternal and Child Health Branch ..... LISA S. SIMPSON, M.D., M.P.H., FAAP
Chief, School Health Branch ..... EDWARD R. MARGULIES, M.D., M.P.H.

Chief, Medical Health Services Division ..... VACANT
Chief, Chronic Disease Branch ..... KLEONA RIGNEY, M.D., M.P.H.
Chief, Emergency Health Mobilization Branch ..... DONNA MAIAVA, B.A.
Chief, Hospital and Medical Facilities Branch ..... ELIZABETH ANDERSON, M.D., M.P.H.
Chief, Laboratories Branch ..... VERNON MIYAMOTO, Ph.D.
Chief, Nutrition Branch ..... FLORA THONG, B.S., M.S.
Chief, Public Health Nursing Branch ..... MAE KURAMOTO, B.S., M.P.H.

Chief, Mental Health Division (Acting)..... ALMA TAKATA, B.S.N., R.N.
Chief, Central Administrative Services ..... TIMOTHY I. WEE, JR., B.A.
Chief, Children's Mental Health Services Branch ..... DAVID FOSTER, M.D.
Administrator, Hawaii State Hospital ..... HOWARD GUDEMAN, M.A., Ph.D.
Chief, Courts and Corrections Branch ..... JOHN BLAYLOCK, M.A., Ph.D.
Acting Chief, Program Support Services ..... LENNARD PEPPER, Ph.D.
Chief, Alcohol and Drug Abuse Branch .(Acting)..... PATRICIA HUNTER
Chief, Leeward Oahu Community Mental Health Center ..... CARL YOSHIMOTO, M.S.W., M.P.H.
Chief, Diamond Head Community Mental Health Center ..... JOY DOMINGUES, R.N.
Chief, Kalihi-Palama Community Mental Health Center (Acting)...KATHLEEN YOSHITOMI, MSW, M.P.H.
Chief, Central Oahu Community Mental Health Center ..... SUNAO MURATA, B.A., M.S.W.
Chief, Windward Oahu Community Mental Health Center ..... CHESTER TAYLOR, B.S., M.D.
Chief, Hawaii Mental Health Center ..... DAVID RIDLEY, PH.D.
Acting Chief, Kauai Mental Health Center ..... WAYNE LAW, B.S., M.S.W.
Chief, Maui Mental Health Center (Acting) ..... ROBERT PITTENGER, M.D.

Hospital Systems Executive Officer, County/State Hospitals ..... ROBERT I. UEOKA, B.B.A.
Hospital Administrator, Leahi Hospital ..... ABRAHAM L. CHOY, B.S.
Hospital Administrator, Maluhia Hospital ..... GILBERT A. GIMA, B.S., M.P.H.
Hospital Administrator, Hilo Hospital ..... FRED D. HORWITZ, B.S., M.S.
Hospital Administrator, Honokaa Hospital ..... YOSHITO IWAMOTO, B.A.
Hospital Administrator, Kau Hospital ..... KENJI NAGAO
Hospital Administrator, Kohala Hospital ..... JACK O. HALSTEAD, B.S.
Hospital Administrator, Kona Hospital ..... JENNIE S. WUNG, B.E.D., B.S.
Hospital Administrator, Maui Memorial Hospital..... ALVIS B. CARR, Jr., B.S., M.A., M.P.H.
Hospital Administrator, Lanai Community Hospital ..... MONICA BORGES, B.A.
Hospital Administrator, Kula Hospital ..... ROMEL DELA CRUZ, B.A., M.P.H.
Hospital Administrator, Kauai Veterans Memorial Hospital .. KEITH M. HORINOUCHI, M.P.H., Ph.D.
Hospital Administrator, Mahelona Memorial Hospital ..... JOHN M. ENGLISH

District Health Officer, Hawaii ..... VACANT

District Health Officer, Maui ..... PAUL E. HOFFMAN, M.D., M.P.H.

District Health Officer, Kauai ..... RONALD L. METLER, B.A., M.D.

RESEARCH AND STATISTICS OFFICE

VITAL STATISTICS SUMMARY, 1988

RESIDENT MID-YEAR POPULATION

The resident 1988 mid-year population of the State of Hawaii increased by 1.5 percent from the revised 1987 figure of 1,082,000 to reach 1,098,200. The 1988 total was 13.8 percent above the 946,691 figure reported in the 1980 U.S. Census.

Maui County and Kauai County both showed gains of 2.9 percent. Increases of 2.4 percent and 1.1 percent were observed for Hawaii County and Honolulu County respectively. Maui Island experienced a gain of 3.5 percent.

LIVE BIRTHS

A total of 19,054 live births were recorded in the State of Hawaii during the calendar year 1988, an increase of 1.9 percent above the 1987 figure of 18,690.

The number of resident live births for the state was 18,939 for 1988 as compared to 18,555 for 1987. The crude birth rate was 17.2 for 1988 and 17.1 for 1987. The crude live birth rate for 1988 was 16.9 per 1,000 population for Hawaii County, 17.2 for Honolulu County, 18.2 for Kauai County and 17.8 for Maui County. The 1987 crude live birth rate was 16.6 per 1,000 population for Hawaii County, 17.1 for Honolulu County, 18.1 for Kauai County, and 17.9 for Maui County. The crude live birth rate for the United States as a whole was 15.9 per 1,000 population in 1988 and 15.7 in 1987.

The total number of births in the military community, composed of men in the Armed Forces and their dependents, was 3776, giving a crude birth rate of 29.8 per 1,000 population. The comparable crude live birth rate for 1987 was 31.9 per 1,000 population.

The number of births occurring in the civilian community for 1988 was 15,161 as compared to 14,589 in 1987. The crude live birth rates were 15.6 per 1,000 population in 1988 and 15.2 in 1987.

MULTIPLE LIVE BIRTHS

A total of 348 live multiple births were recorded for the State in 1988 as compared with 329 for 1987.

There were 154 sets of live birth twins, 16 sets of twins where one of the twin was a fetal death and eight sets of triplets. There were three sets of triplets recorded in 1987.

LOW BIRTH WEIGHT BIRTHS

The low birth weight ratio for 1988 for the state was 6.0 percent based on 1,120 low birth weight babies out of 18,581 single live births recorded. The figure for 1987 was 6.4 percent. The low birth weight ratio was 5.9 percent for male single births and 6.2 percent for single female live births recorded in 1988. For single and plural births combined, the low birth weight ratio was 6.9 percent for 1988.

ATTENDANT AT BIRTH

Of the 19,054 live births recorded during 1988, 18,747 births, or 98.4 percent, were delivered by a physician and 257, or 1.3 percent, were delivered by a licensed midwife.

A total of 18,720 babies, or 98.2 percent, were delivered in a hospital and 204 babies, or 1.1 percent, were delivered at home. Of the 204 babies born at home, 12 were delivered by a physician and 176 by a licensed midwife.

MONTH OF PRENATAL VISIT

A total of 13,559 mothers, or 71.6 percent of all resident mothers, visited a doctor for prenatal care during the first trimester, while 3,182 mothers, or 16.8 percent, went for their first prenatal care visit during the second trimester. Mothers who waited until the third trimester for prenatal care totaled 804, or 4.2 percent of all mothers.

MEDIAN AGE OF PARENTS

The median age of parents of babies born in 1988 was 26 years for mothers and 28 years for fathers.

SEX RATIO OF LIVE BIRTHS

Based on resident live births, the sex ratio of male to female births was 103.6 for 1988 as compared with 107.6 for 1987.

CONGENITAL MALFORMATION

Of the 18,937 resident births recorded for 1988, 606, or 3.2 percent, were reported to have one or more congenital malformation observed at birth.

The leading significant malformations mentioned on the birth certificates were 53 circulatory malformation, including 25 heart malformations; 48 respiratory anomalies; 121 genito-urinary system anomalies, including 20 malformed genitalia; 27 cleft palate; 31 clubfoot; 14 Down's Syndrome and 21 gastro-intestinal anomalies.

The reporting of congenital malformation is not comparable with data for prior year. The primary reason is that improvement in reporting occurred after an in-depth prevalence study of congenital malformation involving all hospitals with maternity wards was carried out in 1987 and 1988.

APGAR SCORE

The Apgar score is a useful measure of the need for resuscitation and a predictor of the infant's chances of surviving the first year of life. It is a summary measure of the infant's condition based on heart rate, respiratory effort, muscle tone reflex, irritability and color.

The five-minute Apgar score for the state in 1988 was 89.6 percent for the 9 and 10 categories combined, and 0.2 percent for the 0-3 categories based on 18,937 resident live births. The comparable figures for 1987 were 88.4 percent and 0.4 respectively.

ILLEGITIMATE BIRTHS

The illegitimate birth rate for the state was 223.3 per 1,000 live births for 1988, as compared to 213.4 per 1,000 live births in 1987.

The highest illegitimate birth rate was observed in Hawaii County (303.5 per 1,000 live births). Over one-third of the births in Hilo City were illegitimate.

Maui County's illegitimate birth rate for 1988 was 279.3 per 1,000 live births, with Molokai Island experiencing an illegitimate birth rate of 420.2 per 1,000 live births.

DEATHS

The number of deaths occurring in the state in 1988 leveled off to 6,315 after reaching a high 6,490 deaths in 1987.

The crude resident death rate for 1988 based on 5,970 resident deaths was 5.4 per 1,000 population. The comparable figures were 6,147 deaths and a resident death rate of 5.7 per 1,000 population for 1987.

Non-resident deaths totaled 340 for 1988 as compared with 343 for 1987.

The provisional crude death rate for the nation as a whole for 1988 was 8.8 per 1,000 population.

The crude death rates of the County of Hawaii (6.7 per 1,000 population) and the County of Kauai (6.9 per 1,000 population) were higher than the crude death rate of the state.

RESIDENT INFANT DEATHS

The resident infant death rate for the state reached an all-time low of 6.9 per 1,000 live births in 1988. The rate was 8.8 per 1,000 live births for 1987, a decline of about 21.6 percent. The 1988 provisional infant death rate of 9.9 per 1,000 live births was the lowest ever recorded for the nation as a whole.

The County of Hawaii with an infant death rate of 9.6 per 1,000 births was the only geographic area with a rate well above the state rate.

Among the larger ethnic groups, the infant death rate was above the state rate for the Samoans (10.7 per 1,000 live births), Blacks (8.8) and Part Hawaiians (8.5). Low infant death rates were observed for the Chinese (1.3 per 1,000 live births) and the Japanese (5.8).

The lower infant death rate was due in part to reduction in such causes of death as congential anomalies of the circulatory system, immaturity, and sudden infant death syndrome.

PERINATAL MORTALITY RATE

The 1988 resident perinatal mortality rate (resident infant deaths under seven days plus resident fetal deaths of 20 weeks or more gestation divided by perinatal events -- the sum of standard fetal deaths of 20 weeks or more gestation plus all resident live births) for the state was 11.6 per 1,000 perinatal events. The 1987 rate was 11.0 per 1,000 live perinatal events.

Honolulu County had the lowest perinatal mortality rate for 1988. The rate for Honolulu County for 1988 was 10.8 per 1,000 perinatal events.

MATERNAL DEATHS

There were two maternal deaths reported for 1988, giving a maternal mortality rate of 1.1 per 10,000 live births. Only one maternal death was reported for 1987 for which the rate was 0.5 per 10,000 live births.

The maternal mortality rate was 0.8 per 10,000 live births for the nation as a whole in 1988.

LEADING CAUSES OF DEATHS

Diseases of the heart (ICD-9 rubrics 390-398, 402, 410-429) with a cause specific rate of 169.2 per 100,000 population continued to be the leading cause of death followed by malignant neoplasms (140-208) with a death rate of 138.0 and cerebrovascular diseases (430-438) with a death rate of 138.8. The three cause of death categories accounted for 63.5 percent of all deaths.

The heart disease deaths declined 9.0 percent from the previous year's rate of 185.9. The malignant neoplasm death rate increased by 5.5 percent above the 1987 death rate of 130.8, and 21.9 percent above the death rate of ten years ago.

All accidents (ICD rubrics E 800-E 949) with rate of 25.6 per 100,000 population and influenza and pneumonia (ICD rubrics 480-487) with a rate of 18.0 continued to hold fourth and fifth place rankings respectively. Chronic obstructive pulmonary diseases (ICD rubrics 490-496), formerly designated as bronchitis, emphysema and asthma, was ranked sixth with a rate of 16.9. Diabetes (ICD rubrics 250) with a rate of 13.2 was ranked seventh followed by suicide (ICD rubrics E 950-E 959) with a rate of 9.4. For 1988 acquired immune deficiency syndrome (ICD rubrics 042-044) totaled 63 deaths resulting in a death rate of 5.7 per 100,000 population. It was ranked as the twelfth leading cause of death. The comparable crude cause specific death for AIDS for the nation for 1988 was 6.6 per 100,000 population.

STANDARD FETAL DEATHS

The resident standard fetal death ratio (spontaneous abortions) was 74.5 per 1,000 live births for the state in 1988 as compared with 72.1 in 1987. The ratio was based on 1,411 fetal deaths reported in 1988 and 1,338 fetal deaths reported in 1987.

High fetal death ratios were found among the Japanese group (92.9 per 1,000 live births) and the Caucasian group (81.9).

The fetal death ratio of 74.5 per 1,000 live births for the state was exceeded by the ratios for Kauai County (150.1 per 1,000 live births) and Maui County (117.3).

ELECTIVE INDUCED ABORTIONS

A total of 6,040 elective induced abortions were recorded for the state in 1988. Only 37, or 0.6 percent, were classified as non-resident.

The state resident elective induced abortion ratio was 316.7 per 1,000 live births for 1988, as compared with 319.3 per 1,000 live births for 1987.

The County of Honolulu had the highest ratio (344.5 per 1,000 live births) followed by Maui County (294.4), Kauai County (276.1) and Hawaii County (151.0).

Twenty-four percent of the 6,040 abortions occurred among married women. The most common type of abortion procedure was suction and currettage (98.3 percent) followed by prostaglandin (0.8 percent).

MARRIAGES

A record number of marriages were performed in the state during 1988. A total of 17,281 marriages were recorded in 1988 compared with 16,567 marriages for 1987, an increase of 4.3 percent.

The crude marriage rate was 15.7 per 1,000 population. The marriage rates were 54.7 for Kauai County and 32.6 for Maui County (two counties which are chosen most frequently by out-of-state couples who get married in the state).

The total number of resident marriages was 9,427 for the state in 1988, as compared with 9,414 for 1987. The adjusted resident marriage rate was 8.6 per 1,000 resident population for 1988 and 8.7 for 1987.

DIVORCES AND ANNULMENTS

There were 5,020 divorces recorded for the state for the year 1988, giving a divorce rate of 4.6 per 1,000 resident population. The comparable figures for 1987 were 4,419 divorces and a rate of 4.1 per 1,000 resident population.

There was a 12.2 percent rise in the divorce rate between 1987 and 1988. Most of the increase occurred in Honolulu County where the divorce rate increased by 20 percent from 4.0 in 1987 to 4.8 in 1988, while the rate for Maui County fell by 15 percent from 4.6 to 3.9 per 1,000 resident population.

TABLE 1

ESTIMATED POPULATION BY RESIDENCE AND MILITARY STATUS
State of Hawaii 1970, 1980, 1987, and 1988

	Resident Population				
	Total		Armed Forces[1]	Civilian[2]	
APRIL 1, 1970 (U.S. CENSUS)	Number	Percent	Number	Number	Percent
State Total	769,913	100.0	55,142	714,771	100.0
City & County of Honolulu	630,528	81.9	54,809	575,719	80.5
Hawaii County	63,468	8.2	140	63,328	8.9
Kauai County	29,761	3.9	134	29,627	4.1
Kauai Island	29,524	3.8	134	29,390	4.1
Niihau Island	237	0.0	-	237	0.0
Maui County[3]	46,156	6.0	59	46,097	6.5
Lanai Island	2,204	0.3	-	2,204	0.3
Maui Island	38,691	5.0	59	38,632	5.4
Molokai Island[3]	5,261	0.7	-	5,261	0.8
APRIL 1, 1980 (U.S. CENSUS)					
State Total	964,691	100.0	57,056	907,635	100.0
City & County of Honolulu	762,565	79.1	56,726	705,839	77.7
Hawaii County	92,053	9.5	152	91,901	10.2
Kauai County	39,082	4.0	153	38,929	4.3
Maui County[3]	70,991	7.4	25	70,966	7.8
Lanai Island	2,119	0.2	-	2,119	0.2
Maui Island	62,823	6.5	25	62,798	6.9
Molokai Island[3]	6,049	0.6	-	6,049	0.7

	REVISED POPULATION JULY 1, 1987		PROVISIONAL POPULATION JULY 1, 1988	
	Number	Percent	Number	Percent
State Total	1,082,000	100.0	1,098,200	100.0
City & County of Honolulu	829,000	76.6	838,500	76.3
Hawaii County	114,800	10.6	117,500	10.7
Kauai County[4]	47,900	4.5	49,300	4.5
Maui County[3]	90,300	8.3	92,900	8.5
Lanai Island	2,310	0.2	2,200	0.2
Maui Island	81,260	7.5	84,100	7.7
Molokai Island[3]	6,730	0.6	6,700	0.6

1/Includes Navy and Coast Guard crews
2/Includes military dependents 1970-61,858; 1980-64,023; 1987-64,800, 1988-69,900
3/Inciudes Kalawao County (Kalaupapa 1970-172; 1980-144; 1987-145; 1988-121)
4/Estimate for Niihau Island July 1, 1981-260; July 1, 1987-200; July 1, 1988-207

Source: Hawaii State Department of Business and Economic Development, Statistical Report 147; Preliminary Intercensal Estimates, 1970-1980, July 9, 1981; DBED Preliminary Estimates, July, 1989.

FIGURE 1
BIRTHS OCCURRING IN HAWAII 1900-1988

TABLE 2

LIVE BIRTHS BY PLACE OF OCCURRENCE AND RACE OF CHILD
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF OCCURRENCE	TOTAL	RACE OF CHILD													
		CAUCASIAN	HAWN	PART HAWN	CHINESE	FILI PIND	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	19056	4388	59	5912	756	3007	2411	84	321	467	813	557	914	83	14
CITY OF HILO	1259	151	6	637	16	196	163	4	8	3	21	45	9	..	..
HAWAII BALANCE	624	179	5	284	6	67	44	3	1	2	5	19	6	2	..
CITY OF HONOLULU	13298	3152	21	3506	677	2017	1855	60	291	397	33	357	643	76	13
BAL OF HONOLULU	1496	406	9	566	31	187	90	9	10	56	10	76	45	2	..
KAUAI ISLAND	839	163	10	319	9	203	112	1	2	2	5	14	2	..	..
LANAI ISLAND	22	1	..	3	..	16	2	..	..	..	..	..	..	..	..
MAUI ISLAND	1455	338	5	547	17	314	145	7	9	7	7	46	9	3	1
MOLOKAI ISLAND	61	1	3	50	..	7	..	..	..	..	..	..	..	..	..

TABLE 2A

LIVE BIRTHS BY PLACE OF RESIDENCE AND RACE OF CHILD
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF RESIDENCE	TOTAL	RATE*	RACE OF CHILD													
			CAUCASIAN	HAWN	PART HAWN	CHINESE	FILI PIND	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	19056	17.4	4388	59	5912	756	3007	2411	84	321	467	813	557	914	83	14
TOTAL RESIDENT	18938	17.3	4340	54	5906	748	2995	2399	83	319	466	81	540	905	83	14
CITY OF HILO	643	14.3	57	3	343	8	74	111	3	3	..	9	25	7	..	..
HAWAII BALANCE	1337	18.4	292	11	623	16	196	108	7	7	5	16	41	10	2	1
CITY OF HONOLULU	5423	15.7	1013	5	1210	483	883	870	20	183	223	15	188	272	53	5
BAL OF HONOLULU	9007	20.3	2464	21	2728	212	1279	1030	45	113	229	27	225	603	24	7
KAUAI ISLAND	871	18.1	167	8	327	9	212	119	1	4	2	5	14	3	..	..
NIIHAU ISLAND	2	10.1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
LANAI ISLAND	30	13.6	..	..	6	..	22	2	..	..	..	..	..	..	..	..
MAUI ISLAND	1505	17.9	343	5	572	18	321	154	7	9	7	7	47	10	4	1
MOLOKAI ISLAND	119	17.8	41	4	97	1	10	3	..	..	..	..	..	..	..	..
NON RESIDENT	115	--	48	..	6	9	10	14	1	2	1	..	15	9	..	..
UNKNOWN	2	--	..	..	..	..	..	..	..	..	..	..	2	..	..	..

*NUMBER OF BIRTHS PER 1,000 RESIDENT POPULATION

TABLE 3

LIVE BIRTHS BY PLACE OF OCCURRENCE AND RACE OF MOTHER
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF OCCURRENCE	TOTAL	RACE OF MOTHER													
		CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	19054	5752	144	4213	701	3209	2524	123	412	475	211	517	659	97	17
CITY OF HILO	1259	245	17	433	18	242	191	10	11	5	46	37	3	1	..
HAWAII BALANCE	624	255	15	187	6	75	42	2	1	2	12	21	4	2	..
CITY OF HONOLULU	13298	3996	55	2571	616	2129	1950	94	378	398	67	324	614	91	15
BAL OF HONOLULU	1496	534	13	411	36	207	84	7	11	61	19	74	36	2	1
KAUAI ISLAND	839	238	23	199	8	218	97	3	4	..	31	17	1	..	..
LANAI ISLAND	22	3	..	2	..	15	2	..	..	..	..	..	..	..	..
MAUI ISLAND	1455	479	17	366	17	314	158	7	7	9	36	44	1	1	1
MOLOKAI ISLAND	61	2	4	46	..	9	..	..	..	..	..	..	..	..	..

TABLE 3A

LIVE BIRTHS BY PLACE OF RESIDENCE AND RACE OF MOTHER
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF RESIDENCE	TOTAL	RATE*	RACE OF MOTHER													
			CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	19054	17.4	5752	144	4213	701	3209	2524	123	412	475	211	517	659	97	17
TOTAL RESIDENT	18937	17.2	5701	144	4210	692	3199	2509	122	410	474	211	499	653	97	16
CITY OF HILO	643	14.3	101	11	240	11	88	130	6	6	3	22	21	3	1	..
HAWAII BALANCE	1337	18.4	429	25	412	15	237	116	9	7	4	36	38	5	3	1
CITY OF HONOLULU	5423	13.7	1369	11	863	445	915	906	23	229	214	26	165	189	62	6
BAL OF HONOLULU	9007	20.3	3058	52	2021	193	1372	1080	73	156	244	56	211	454	29	8
KAUAI ISLAND	871	18.3	247	21	204	10	228	102	3	5	..	33	17	1	..	..
NIIHAU ISLAND	2	10.1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
LANAI ISLAND	30	13.6	2	..	4	..	20	4	..	..	..	..	..	..	..	..
MAUI ISLAND	1505	17.9	487	17	379	17	325	167	8	7	9	38	47	1	2	1
MOLOKAI ISLAND	119	17.6	8	5	87	1	14	4	..	..	..	..	..	..	..	..
NON RESIDENT	115	--	51	..	3	9	10	15	1	2	1	..	16	6	..	1
UNKNOWN	2	--	..	..	..	..	..	..	..	..	..	..	2	..	..	..

*NUMBER OF BIRTHS PER 1,000 RESIDENT POPULATION

TABLE 4

RESIDENT LIVE BIRTHS BY RACE OF MOTHER AND TYPE OF CONGENITAL ANOMALIES
STATE OF HAWAII, 1988

TYPE CONGENITAL MALFORMATION	TOTAL	PERCENT*	RACE OF MOTHER													
			CAUCASIAN	HAWAIIAN	PART HAWAIIAN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL	18937	100.0	5701	144	4210	691	3199	2569	122	410	474	211	499	653	97	16
ONE OR MORE MALFORMATIONS	606	3.2	162	3	153	25	97	84	4	14	16	0	17	15	4	2
NO MALFORMATION	18331	96.8	5539	141	4057	669	3102	2427	118	392	456	203	482	638	93	14
ANENCEPHALUS (01)	1	0.0				1										
SPINA BIFIDA/ MENINGOCELE (02)	4	0.0	1				1									
HYDROCEPHALUS (03)	4	0.0	2				1				1					
MICROCEPHALUS (04)	7	0.0	1		2			2	1		1					
OTHER CENTRAL NERVOUS SYSTEM (05)	8	0.0	4	-	2	-	-	1	-	-	1	-	-	-	-	-
HEART MALFORMATIONS (06)	25	0.1	7	-	6	1	2	4	1	-	2	-	-	2	-	-
OTHER CIRCULATORY ANOMALIES (07)	18	0.2	10		9	4	5	4		2		1	1	2	-	-
RESPIRATORY ANOMALIES (08)	48	0.3	16	-	14	-	7	3	-	-	2	1	5	-	-	-
GASTRO-INTESTINAL ANOMALIES	21	0.1	9	-	3	-	4	4	-	-	-	-	-	1	-	-
MALFORMED GENITALIA (13)	20	0.1	7	-	5	-	2	3	-	1	-	1	1	-	-	-
HYDROCELE (15)	39	0.2	14	-	5	4	5	7	-	2	-	-	1	1	-	-
OTHER UROGENITAL ANOMALIES (14, 16)	62	0.3	18	1	15	1	11	8	-	2	3	1	-	2	-	-
CLEFT LIP/PALATE (17)	27	0.1	8	-	6	1	5	5	-	-	2	-	-	-	-	-
POLYDACTYLY, SYNDACTYLY, ADACTYLY (28)	15	0.1	4	-	2	-	4	-	-	1	-	-	3	1	-	-
CLUBFOOT (19)	31	0.2	8	-	8	1	5	5	-	1	-	-	3	-	-	-
OTHER MUSCULO-SKELETAL ANOMALIES (20, 21)	112	0.6	28	1	33	2	19	14	2	3	2	1	3	3	-	1
DOWNS SYNDROME (22)	14	0.1	2	-	3	-	5	3	-	1	-	-	-	-	-	-
OTHER CHROMOSOM-AL ANOMALIES (23)	8	0.0	4	-	2	1	-	-	-	-	1	-	-	-	-	-
HEMANGIOMA (24)	17	0.1	7	-	3	1	3	-	-	1	1	-	-	-	1	-
NEVUS (25)	36	0.2	7	-	8	2	8	2	-	1	4	2	-	2	-	-
SIMEAN CREASE (27)	25	0.1	3	-	6	2	7	4	-	-	-	1	-	-	1	1
SKIN TAG (27)	35	0.2	4	1	15	-	3	7	-	1	2	-	-	2	-	-
OTHER SKIN ANOMALIES (28)	78	0.4	20	-	19	3	14	12	-	2	3	1	1	1	2	-

*IF ANY INFANT HAS MORE THAN ONE CONGENITAL MALFORMATION, THE SUM OF THE PERCENTAGES WILL BE GREATER THAN 100.

TABLE 5

LIVE BIRTHS BY PLACE AND MONTH OF OCCURRENCE
STATE OF HAWAII, 1986

GEOGRAPHIC AREA	MONTH OF BIRTH												
	TOTAL	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	UNK
TOTAL RECORDED	19054	1576	1509	1593	1484	1555	1448	1591	1685	1676	1697	1615	1622	3
CITY OF HILO	1259	93	111	105	87	115	92	111	118	108	106	90	123	..
HAWAII BALANCE	624	43	47	46	47	51	37	48	72	60	62	54	57	..
CITY OF HONOLULU	13298	1097	1031	1098	1074	1043	1036	1137	1161	1159	1186	1151	1124	1
BAL OF HONOLULU	1496	140	127	127	104	144	98	128	139	152	121	103	113	..
KAUAI ISLAND	839	77	66	71	60	69	63	54	68	70	95	65	81	..
LANAI ISLAND	22	2	1	3	1	1	2	4	1	2	2	1	2	..
MAUI ISLAND	1455	122	121	134	108	128	116	107	118	120	122	140	117	2
MOLOKAI ISLAND	61	2	5	9	3	4	4	2	8	5	3	1	5	..

TABLE 6

TOTAL LIVE BIRTHS OCCURRING IN HAWAII
PLACE OF BIRTH BY TYPE OF ATTENDANT BY RACE OF CHILD
STATE OF HAWAII, 1986

PLACE OF BIRTH & ATTENDANT		RACE OF CHILD														
		TOTAL	CAUCA SIAN	HAWN	PART HAWN	CHI NESE	FILI PINO	JAPA NESE	PUERTO RICAN	KOREAN	SAMOAN	PORTU-GUESE	OTHER	BLACK	VIET NAMESE	UNK
TOTAL BIRTHS	MED DOCTOR	18747	4232	56	5837	754	2978	2403	83	320	461	81	542	904	83	13
	OSTEOPATH	34	22	..	1	..	3	..	..	..	4	..	..	4	..	..
	MIDWIFE	257	122	3	73	2	26	8	1	1	2	..	13	6	..	..
	OTHER	6	3	..	1	..	..	..	..	..	..	..	1	..	..	1
	NATUROPATH	10	9	..	..	..	..	..	..	..	..	..	1	..	..	..
	SUB TOTAL	19054	4388	59	5912	756	3007	2411	84	321	467	81	557	914	83	14
HOSPITAL	MED DOCTOR	18720	4224	56	5825	753	2976	2402	82	320	459	81	542	904	83	13
	OSTEOPATH	34	22	..	1	..	3	..	..	..	4	..	..	4	..	..
	MIDWIFE	75	5	3	52	1	11	1	1	..	..	..	1	..	..	..
	OTHER	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	NATUROPATH	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	SUB TOTAL	18829	4251	59	5878	754	2990	2403	83	320	463	81	543	908	83	13
OTHER * FACILITY	MED DOCTOR	15	..	..	9	1	1	1	1	..	2	..	..	..	..	..
	OSTEOPATH	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	MIDWIFE	6	1	..	2	1	1	..	..	..	..	..	1	..	..	..
	OTHER	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	NATUROPATH	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	SUB TOTAL	21	1	..	11	2	2	1	1	..	2	..	1	..	..	..
RESIDENCE	MED DOCTOR	12	8	..	3	..	1	..	..	..	..	..	..	..	..	..
	OSTEOPATH	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	MIDWIFE	176	116	..	19	..	14	7	..	1	2	..	11	6	..	..
	OTHER	6	3	..	1	..	..	..	..	..	..	..	1	..	..	1
	NATUROPATH	10	9	..	..	..	..	..	..	..	..	..	1	..	..	..
	SUB TOTAL	204	136	..	23	..	15	7	..	1	2	..	13	6	..	1

* CENTERS, CLINICS, DOC OFFICES, CARE HOMES ETC.

TABLE 7

LIVE BIRTHS BY RACE OF FATHER AND OF MOTHER
STATE OF HAWAII, 1988

RACE OF MOTHER	RACE OF FATHER															
	ALL RACES	CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
ALL RACES	18937	5446	195	3341	718	2705	2257	160	222	468	256	513	859	59	1738
CAUCASIAN	5701	3951	34	462	74	253	246	27	15	35	29	83	134	3	355
HAWAIIAN	144	17	32	38	..	11	6	..	..	6	2	2	3	..	27
PART HAWAIIAN	4210	379	91	1764	78	415	306	53	17	116	115	124	56	2	694
CHINESE	692	85	3	55	351	26	126	1	7	5	4	6	5	1	17
FILIPINO	3199	405	9	429	33	1735	158	27	10	13	44	35	55	2	244
JAPANESE	2509	319	12	348	147	165	1287	13	34	12	24	28	18	2	100
PUERTO RICAN	122	13	..	21	1	11	7	26	..	1	4	2	7	..	29
KOREAN	410	101	2	27	21	22	78	1	139	2	3	1	4	..	9
SAMOAN	474	26	4	33	2	9	2	2	..	266	2	16	20	..	92
PORTUGUESE	211	20	3	82	1	28	18	1	..	2	25	5	3	..	23
OTHER	499	87	5	70	4	23	15	2	..	8	2	206	13	..	64
BLACK	653	32	..	9	..	2	4	6	..	2	2	2	539	..	55
VIETNAMESE	97	10	..	3	6	5	3	1	..	..	..	3	2	49	15
UNKNOWN	16	1	..	..	..	..	1	..	..	..	..	..	..	..	14

TABLE 8

RESIDENT LIVE BIRTHS BY RACE OF MOTHER AND MONTH OF FIRST PRENATAL VISIT
STATE OF HAWAII, 1988

RACE OF MOTHER	MONTH OF FIRST PRENATAL CARE											
	TOTAL-BIRTHS	NONE	1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	NOT STATED
ALL RACES	18937	130	2718	6846	3996	1552	959	671	405	299	100	1261
CAUCASIAN	5701	31	1067	2299	1212	389	195	134	79	54	10	231
HAWAIIAN	144	5	8	25	34	18	15	12	7	4	3	13
PART HAWAIIAN	4210	39	393	1234	916	465	321	241	133	80	29	359
CHINESE	692	1	122	307	122	45	12	18	10	14	3	38
FILIPINO	3199	22	349	1075	741	299	209	107	66	53	21	257
JAPANESE	2509	11	453	1117	438	137	78	44	29	21	10	171
PUERTO RICAN	122	1	23	43	30	8	4	1	4	1	1	6
KOREAN	410	..	60	161	78	30	20	11	5	7	3	35
SAMOAN	474	15	24	77	76	46	39	44	38	34	10	71
PORTUGUESE	211	1	35	77	46	22	6	5	4	2	..	13
OTHER	499	3	42	144	124	40	31	31	20	23	7	34
BLACK	653	1	128	248	153	45	24	17	8	5	2	22
VIETNAMESE	97	..	13	37	22	8	5	2	..	1	1	8
UNKNOWN	16	..	1	2	4	..	..	4	2	..	..	3

TABLE 9

RESIDENT LIVE BIRTHS BY RACE OF MOTHER AND NUMBER OF CHILDREN BORN TO MOTHER
STATE OF HAWAII, 1988

RACE OF MOTHER	TOTAL NUMBER OF CHILDREN BORN TO MOTHER												
	TOTAL-BIRTHS	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	12 OR MORE
ALL RACES	18937	5743	5588	3739	1999	955	445	276	105	34	23	11	19
CAUCASIAN	5701	1763	1738	1133	573	280	117	61	22	6	3	3	2
HAWAIIAN	144	25	20	36	26	15	7	5	6	1	3	..	..
PART HAWAIIAN	4210	1228	1047	817	524	277	146	101	36	11	8	4	11
CHINESE	692	233	227	129	62	26	6	7	1	..	1	..	..
FILIPINO	3199	1025	1012	614	299	131	58	34	13	6	5	1	1
JAPANESE	2509	772	851	501	227	94	34	21	7	1	..	..	1
PUERTO RICAN	122	39	33	22	14	7	4	2	..	1	..	..	..
KOREAN	410	127	142	71	35	15	10	6	3	..	..	..	1
SAMOAN	474	110	112	94	60	40	23	15	9	4	3	1	3
PORTUGUESE	211	61	53	46	25	10	11	2	3	..	..	..	..
OTHER	499	144	115	101	58	42	16	13	4	4	..	2	..
BLACK	653	189	206	148	77	15	9	8	1	..	..	..	..
VIETNAMESE	97	22	27	25	17	3	2	1	..	..	..	..	..
UNKNOWN	16	5	5	2	2	..	2	..	..	..	..	..	..

TABLE 10

RESIDENT LIVE BIRTHS BY RACE OF MOTHER AND NUMBER OF CHILDREN BORN ALIVE TO MOTHER
STATE OF HAWAII, 1988

RACE OF MOTHER	TOTAL NUMBER OF CHILDREN BORN ALIVE												
	TOTAL-BIRTHS	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	12 OR MORE
ALL RACES	18937	7974	6035	3134	1119	391	161	73	28	11	5	2	4
CAUCASIAN	5701	2625	1871	833	255	78	24	6	6	1	..	..	..
HAWAIIAN	144	30	29	37	23	10	5	4	2	1	3	..	..
PART HAWAIIAN	4210	1575	1166	799	393	160	68	32	7	5	2	..	3
CHINESE	692	319	245	94	28	4	1	1	..	..	..	..	..
FILIPINO	3199	1306	1054	577	171	51	22	11	6	1	..	..	..
JAPANESE	2509	1164	907	335	79	17	5	1	1	..	..	..	..
PUERTO RICAN	122	46	39	23	12	2	..	..	..	..	..	..	..
KOREAN	410	205	150	40	11	2	1	1	..	..	..	..	..
SAMOAN	474	134	119	94	55	34	21	7	5	3	..	1	1
PORTUGUESE	211	73	59	48	24	4	2	1	..	..	..	..	..
OTHER	499	184	136	100	34	27	11	5	1	..	..	1	..
BLACK	653	275	224	125	25	1	1	2	..	..	..	..	..
VIETNAMESE	97	31	31	25	9	1	..	..	..	..	..	..	..
UNKNOWN	16	7	5	4	..	..	..	..	..	..	..	..	..

TABLE 11

LIVE BIRTHS BY AGE OF MOTHER AND NUMBER OF CHILDREN BORN
STATE OF HAWAII, 1988

AGE OF MOTHER		TOTAL NUMBER OF CHILDREN BORN TO MOTHER											
	TOTAL-BIRTHS	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	12 OR MORE
ALL AGES	18937	5743	5588	3739	1999	955	445	276	105	34	23	11	19
.	1	..	..	..	..	..	1	..	..	..	..	..	..
<15	24	22	2	..	..	..	..	..	..	..	..	..	..
15-17	514	402	96	15	1	..	..	..	..	..	..	..	..
18-19	1240	801	321	96	15	6	..	1	..	..	..	..	..
20-24	5235	1954	1717	943	396	150	43	26	3	3	..	2	..
25-29	5792	1498	1739	1271	659	331	163	91	23	8	4	4	1
30-34	4205	811	1216	981	584	307	147	83	45	10	9	4	3
35-39	1657	229	433	377	298	129	77	61	27	11	6	1	3
40-44	264	26	63	56	46	31	14	13	7	2	4	..	2
45-49	4	..	1	..	2	..	..	1	..	..	..	..	..
50 +	1	..	..	..	..	1	..	..	..	..	..	..	..

TABLE 12

LIVE BIRTHS BY AGE OF MOTHER AND NUMBER OF CHILDREN BORN ALIVE
STATE OF HAWAII, 1988

AGE OF MOTHER		TOTAL NUMBER OF CHILDREN BORN ALIVE											
	TOTAL-BIRTHS	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	12 OR MORE
ALL AGES	18937	7974	6035	3134	1119	391	161	73	28	11	5	2	4
.	1	..	..	1	..	..	..	..	..	..	..	..	..
<15	24	24	..	..	..	..	..	..	..	..	..	..	..
15-17	514	452	60	2	..	..	..	..	..	..	..	..	..
18-19	1240	955	245	33	7	..	..	..	..	..	..	..	..
20-24	5235	2632	1713	681	170	34	5	..	..	..	..	..	..
25-29	5792	2173	1927	1090	385	146	48	16	3	4	..	..	..
30-34	4205	1265	1462	898	363	117	57	30	9	3	1	..	..
35-39	1657	414	543	375	161	77	43	21	14	3	1	2	3
40-44	264	59	84	54	31	15	8	6	2	1	3	..	1
45-49	4	..	1	..	2	1	..	..	..	..	..	..	..
50 +	1	..	..	..	..	1	..	..	..	..	..	..	..

TABLE 13

SINGLE LIVE BIRTHS BY WEIGHT AT BIRTH AND RACE OF CHILD
STATE OF HAWAII, 1988

WEIGHT IN GRAMS	RACE OF CHILD														
	ALL RACES	CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL	18581	4256	55	5816	732	2953	2353	81	313	456	79	519	873	81	14
UNDER 500	17	2	..	7	..	5	2	..	..	..	..	..	1	..	..
500-999	45	9	..	18	..	5	6	..	..	..	..	3	4	..	..
1000-1499	81	14	3	25	2	17	13	..	..	1	..	..	6	..	..
1500-1999	169	33	1	52	2	42	24	1	1	..	1	3	7	1	1
2000-2499	808	138	1	268	22	191	103	5	8	10	2	17	39	3	1
2500-2999	3539	567	13	1101	164	761	563	13	52	34	13	75	163	18	2
3000-3499	7331	1503	18	2243	330	1244	1040	34	131	153	32	196	361	43	3
3500-3999	4944	1454	13	1572	178	577	482	24	86	159	23	132	225	13	6
4000-4499	1373	452	2	434	29	97	105	4	32	75	8	71	62	2	..
4500-4999	217	72	3	77	5	10	13	..	1	14	..	17	4	1	..
5000 +	36	8	1	11	..	2	..	..	1	8	..	4	1	..	..
UNKNOWN	21	4	..	3	..	2	2	..	1	2	..	1	..	..	1

INFANTS OF LESS THAN 2500 GRAMS ARE CONSIDERED LOW BIRTH WEIGHT

TABLE 14

SINGLE LIVE BIRTHS BY WEIGHT AT BIRTH AND RACE OF MOTHER
STATE OF HAWAII, 1988

WEIGHT IN GRAMS	RACE OF MOTHER														
	ALL RACES	CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL	18581	5578	138	4151	678	3155	2472	116	404	468	203	480	627	95	16
UNDER 500	17	2	..	6	..	6	2	..	..	..	..	..	1	..	..
500-999	45	11	..	15	..	7	5	..	..	..	1	4	2	..	..
1000-1499	81	21	4	15	..	17	13	1	1	1	1	1	6	..	..
1500-1999	169	41	2	42	4	37	24	1	3	..	3	4	6	1	1
2000-2499	808	183	7	192	16	207	121	5	8	11	8	14	31	4	1
2500-2999	3539	771	27	790	142	816	607	23	72	39	39	68	124	19	2
3000-3499	7331	2042	45	1584	320	1320	1074	50	166	152	88	177	260	48	5
3500-3999	4944	1835	36	1129	158	609	522	29	107	161	49	136	149	18	6
4000-4499	1373	561	11	309	31	114	94	7	44	81	10	62	45	4	..
4500-4999	217	94	5	57	5	15	9	..	1	13	3	11	3	1	..
5000 +	36	11	1	8	1	3	..	..	1	7	1	3	..	..	..
UNKNOWN	21	6	..	4	1	4	1	..	1	3	..	..	..	..	1

INFANTS OF LESS THAN 2500 GRAMS ARE CONSIDERED LOW BIRTH WEIGHT

TABLE 15

SINGLE MALE LIVE BIRTHS BY WEIGHT AND GESTATION PERIOD
STATE OF HAWAII, 1988

WEIGHT IN GRAMS	GESTATION PERIOD IN WEEKS							
	TOTAL	UNDER 20	20-27	28-35	36-39	40	OVER 40	UNK
TOTAL	9451	3	42	388	4394	2931	1456	237
UNDER 500	9	2	5	..	1	..	1	..
500-999	26	..	22	4	..	..	..	..
1000-1499	51	..	8	37	3	1	..	2
1500-1999	88	..	1	54	27	4	..	2
2000-2499	383	..	..	130	211	35	4	3
2500-2999	1520	..	3	108	980	288	96	45
3000-3499	3590	..	1	36	1898	1127	441	87
3500-3999	2768	..	..	12	1006	1100	578	72
4000-4499	826	..	..	5	225	307	268	21
4500-4999	158	..	..	..	36	58	62	2
5000 +	22	..	..	..	6	9	6	1
UNKNOWN	10	1	2	2	1	2	..	2

INFANTS OF LESS THAN 2500 GRAMS ARE CONSIDERED LOW BIRTH WEIGHT

TABLE 16

SINGLE FEMALE LIVE BIRTHS BY WEIGHT AND GESTATION PERIOD
STATE OF HAWAII, 1988

WEIGHT IN GRAMS	GESTATION PERIOD IN WEEKS							
	TOTAL	UNDER 20	20-27	28-35	36-39	40	OVER 40	UNK
TOTAL	9130	2	32	299	4096	3000	1460	243
UNDER 500	8	1	6	..	1	..	..	..
500-999	19	..	16	1	..	..	..	2
1000-1499	30	..	5	20	2	..	..	3
1500-1999	81	..	1	49	26	1	..	4
2000-2499	425	..	2	98	249	54	12	10
2500-2999	2019	..	2	77	1244	494	140	62
3000-3499	3741	..	..	37	1701	1367	546	90
3500-3999	2176	..	..	11	719	859	533	54
4000-4499	547	..	..	2	129	203	199	14
4500-4999	59	..	..	..	18	17	22	2
5000 +	14	..	..	1	3	3	7	..
UNKNOWN	11	1	..	3	2	2	1	2

INFANTS OF LESS THAN 2500 GRAMS ARE CONSIDERED LOW BIRTH WEIGHT

TABLE 17

RESIDENT LIVE BIRTHS OCCURRING IN HAWAII BY RACE OF CHILD AND PLURALITY
STATE OF HAWAII, 1988

SINGLE & PLURAL				SINGLE			PLURAL			UNKNOWN		
RACE OF CHILD		SEX			SEX			SEX			SEX	
	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE
ALL RACES	18937	9636	9301	18581	9451	9130	348	181	167	7	4	3
CAUCASIAN	4340	2207	2133	4256	2162	2094	83	44	39	1	1	..
HAWAIIAN	59	27	32	55	27	28	4	..	4	..	..	..
PART HAWAIIAN	5906	3026	2880	5816	2972	2844	87	52	35	3	2	1
CHINESE	747	386	361	732	375	357	15	11	4	..	..	..
FILIPINO	2997	1518	1479	2953	1504	1449	44	14	30	..	..	..
JAPANESE	2397	1171	1226	2353	1152	1201	44	19	25	..	..	..
PUERTO RICAN	83	51	32	81	49	32	2	2	..	..	..	..
KOREAN	319	163	156	313	160	153	6	3	3	..	..	..
SAMOAN	466	241	225	456	238	218	10	3	7	..	..	..
PORTUGUESE	81	38	43	79	36	43	2	2	..	..	..	..
OTHER	540	278	262	519	265	254	18	12	6	2	1	1
BLACK	905	477	428	873	458	415	31	19	12	1	..	1
VIETNAMESE	83	47	36	81	47	34	2	..	2	..	..	..
UNKNOWN	14	6	8	14	6	8	..	..	..	..	..	..

TABLE 17A

RESIDENT LOW BIRTHWEIGHT LIVE BIRTHS OCCURRING IN HAWAII BY RACE OF CHILD AND PLURALITY
STATE OF HAWAII 1988

SINGLE & PLURAL				SINGLE			PLURAL			UNKNOWN		
RACE OF CHILD		SEX			SEX			SEX			SEX	
	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE	BOTH SEX	MALE	FEMALE
ALL RACES	1299	641	658	1120	557	563	179	84	95	1	..	1
CAUCASIAN	244	126	118	196	104	92	48	22	26	..	..	..
HAWAIIAN	6	2	4	5	2	3	1	..	1	..	..	..
PART HAWAIIAN	404	218	186	370	198	172	34	20	14	..	..	..
CHINESE	30	15	15	26	12	14	4	3	1	..	..	..
FILIPINO	288	122	166	260	115	145	28	7	21	..	..	..
JAPANESE	175	80	95	148	68	80	27	12	15	..	..	..
PUERTO RICAN	8	4	4	6	2	4	2	2	..	..	..	..
KOREAN	11	6	5	9	5	4	2	1	1	..	..	..
SAMOAN	13	6	7	11	6	5	2	..	2	..	..	..
PORTUGUESE	3	3	..	3	3	..	..	..	..	..	..	..
OTHER	31	16	15	23	10	13	8	6	2	1	..	1
BLACK	78	40	38	57	29	28	21	11	10	..	..	..
VIETNAMESE	6	2	4	4	2	2	2	..	2	..	..	..
UNKNOWN	2	1	1	2	1	1	..	..	..	..	..	..

TABLE 18

RESIDENT LIVE BIRTHS BY RACE AND AGE OF MOTHER
STATE OF HAWAII, 1988

RACE OF MOTHER	ALL AGES	.	AGE OF MOTHER IN YEARS									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50 +
ALL RACES	18937	11	24	514	1240	5235	5792	4205	1657	264	41	1
CAUCASIAN	5701	..	1	65	266	1655	1859	1215	551	89	..	..
HAWAIIAN	144	..	..	3	6	39	53	24	16	3	..	..
PART HAWAIIAN	4210	..	13	264	504	1436	1146	599	218	29	1	..
CHINESE	642	..	..	4	12	66	219	271	103	17	..	..
FILIPINO	3199	..	7	104	235	939	960	661	239	52	2	..
JAPANESE	2509	..	..	22	61	304	737	955	382	48	..	..
PUERTO RICAN	122	..	..	4	14	43	41	15	4	1	..	..
KOREAN	410	..	..	3	12	60	155	136	33	11	..	..
SAMOAN	474	..	1	18	45	165	124	91	28	2	..	..
PORTUGUESE	211	..	..	4	13	61	72	47	13	1	..	..
OTHER	499	..	1	14	24	162	163	93	34	6	1	1
BLACK	653	..	1	8	41	276	228	75	22	2	..	..
VIETNAMESE	97	..	..	1	6	22	31	22	12	3	..	..
UNKNOWN	161	1	..	..	1	7	4	1	2	..	..	..

TABLE 19

RESIDENT LIVE BIRTHS BY AGE OF FATHER AND OF MOTHER
STATE OF HAWAII, 1988

AGE OF FATHER	ALL AGES	.	AGE OF MOTHER IN YEARS									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50 +
ALL AGES	18937	11	24	514	1240	5235	5792	4205	1657	264	41	1
<15	2	..	1	1	..	..	..	..	..	..	..	..
15-17	125	..	3	71	44	7	..	..	..	..	..	..
18-19	447	..	3	117	216	104	7	..	..	..	..	..
20-24	3427	..	1	131	566	2217	492	71	17	2	..	..
25-29	4934	..	1	23	105	1659	2525	507	109	5	..	..
30-34	4185	..	..	2	22	404	1627	1828	272	28	2	..
35-39	2558	..	..	..	5	143	516	1142	680	72	..	..
40-44	976	..	..	..	3	49	150	322	356	95	1	..
45-49	298	..	..	..	3	11	63	87	100	33	1	..
50-54	32	..	..	..	1	6	15	27	24	8	..	1
55-59	47	..	..	..	1	5	6	15	13	7	..	..
60-64	29	..	..	..	1	3	4	11	5	5	..	..
65 +	20	..	..	..	..	1	4	6	7	2	..	..
UNK	1737	1	15	169	273	626	383	189	74	7	..	..

MEDIAN AGE OF KNOWN FATHERS = 29
MEDIAN AGE OF ALL MOTHERS = 24

TABLE 20

RESIDENT LIVE BIRTHS OCCURRING IN HAWAII
ONE MINUTE APGAR SCORE BY FIVE MINUTE APGAR SCORE
STATE OF HAWAII, 1988

ONE MINUTE APGAR ACORE	FIVE MINUTE APGAR SCORE												
	TOTAL	0	1	2	3	4	5	6	7	8	9	10	UNK
TOTAL	18937	121	321	81	171	311	491	1101	2461	13611	15884	1078	109
0	17	7	3	..	..	1	2	..	..	2	2	..	..
1	135	4	22	5	12	13	12	22	17	14	14	..	..
2	151	..	7	3	2	9	19	31	20	27	30	2	1
3	153	..	..	..	2	5	5	14	28	43	54	1	1
4	240	..	..	..	..	3	5	20	37	82	93	..	..
5	338	..	..	..	1	..	2	14	41	111	167	2	..
6	617	..	..	..	..	..	2	7	61	193	350	4	..
7	1620	1	..	..	..	..	..	2	28	447	1120	21	1
8	10401	..	..	..	..	..	1	..	13	430	9783	174	..
9	5080	..	..	..	..	..	1	..	1	12	4267	799	..
10	75	..	..	..	..	..	..	..	..	..	..	74	1
UNK	110	..	..	..	..	..	..	..	..	..	4	1	105

TABLE 21

RESIDENT LIVE BIRTHS OCCURRING IN HAWAII
FIVE MINUTE APGAR SCORE BY RESIDENCE OF MOTHER
STATE OF HAWAII, 1988

GEOGRAPHIC AREA	FIVE MINUTE APGAR SCORE												
	TOTAL	0	1	2	3	4	5	6	7	8	9	10	UNK
STATE	18937	121	321	81	171	311	491	1101	2461	13611	15884	1078	109
CITY OF HILO	643	..	..	..	2	1	5	3	4	25	437	163	3
HAWAII BALANCE	1337	3	3	2	1	2	5	5	22	116	915	242	21
CITY OF HONOLULU	5423	3	6	1	5	7	10	33	58	366	4734	181	19
BAL OF HONOLULU	9007	5	18	5	5	20	24	50	133	651	7698	362	36
KAUAI ISLAND	871	..	1	..	1	1	4	11	14	81	698	50	10
NIIHAU ISLAND	2	..	..	..	..	..	..	..	..	..	2	..	..
LANAI ISLAND	30	1	..	..	..	..	..	1	1	4	21	2	..
MAUI ISLAND	1505	..	4	..	3	..	1	7	13	104	1292	62	19
MOLOKAI ISLAND	119	..	..	..	..	..	..	..	1	14	87	16	1

TABLE 22

ILLEGITIMATE LIVE BIRTHS BY PLACE OF OCCURRENCE AND RACE OF MOTHER
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF OCCURRENCE	TOTAL	RACE OF MOTHER														
		CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	4255	782	57	1834	45	707	281	53	39	143	63	117	103	21	10
CITY OF HILO	400	59	8	196	1	71	30	4	2	--	18	11	--	--	--
HAWAII BALANCE	171	56	2	74	--	16	4	1	--	1	5	9	2	1	--
CITY OF HONOLULU	2701	436	25	1136	34	456	195	39	35	129	21	70	97	19	9
BAL OF HONOLULU	374	78	7	187	6	45	15	4	1	11	3	12	4	1	--
KAUAI ISLAND	190	40	7	71	1	47	10	1	--	--	8	5	--	--	--
LANAI ISLAND	2	--	--	1	--	1	--	--	--	--	--	--	--	--	--
MAUI ISLAND	395	113	6	150	3	70	27	4	1	2	8	10	--	--	1
MOLOKAI ISLAND	22	--	2	19	--	1	--	--	--	--	--	--	--	--	--

TABLE 22A

ILLEGITIMATE LIVE BIRTHS BY PLACE OF RESIDENCE AND RACE OF MOTHER
STATE OF HAWAII, 1988

GEOGRAPHIC AREA OF RESIDENCE	TOTAL	RATE*	RACE OF MOTHER													
			CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL RECORDED	4255	223.3	782	57	1834	45	707	281	53	39	143	63	117	103	21	10
CITY OF HILO	226	351.5	29	6	122	--	28	20	4	--	--	9	8	--	--	--
HAWAII BALANCE	375	280.5	93	7	163	1	60	15	4	2	1	14	11	2	1	1
CITY OF HONOLULU	1098	202.5	184	8	371	21	202	106	10	21	69	6	44	38	15	3
BAL OF HONOLULU	1879	208.6	311	20	908	17	286	100	29	15	71	16	34	62	5	5
KAUAI ISLAND	200	229.6	42	7	72	1	51	11	1	--	--	10	5	--	--	--
LANAI ISLAND	3	100.0	--	--	1	--	2	--	--	--	--	--	--	--	--	--
MAUI ISLAND	409	271.8	117	6	156	3	74	26	4	1	2	8	11	--	--	1
MOLOKAI ISLAND	50	420.2	--	3	41	1	4	1	--	--	--	--	--	--	--	--
NON RESIDENT	14	--	6	--	--	1	--	2	1	--	--	--	3	1	--	--
UNKNOWN	1	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--

*NUMBER OF BIRTHS PER 1,000 RESIDENT POPULATION

TABLE 23
RESIDENT ILLEGITIMATE LIVE BIRTHS BY WEIGHT AT BIRTH AND RACE OF CHILD
STATE OF HAWAII, 1988

WEIGHT IN GRAMS	RACE OF CHILD															
	ALL RACES	CAUCASIAN	HAW'N	PART HAW'N	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	PORTUGUESE	OTHER	BLACK	VIETNAMESE	UNK
TOTAL	4240	499	33	2289	42	634	224	41	29	138	27	107	150	17	10
UNDER 500	9	..	..	7	..	1	1	..	..	..	..	..	..	..	..
500-999	25	2	..	13	..	5	..	2	..	..	..	2	1	..	..
1000-1499	25	4	1	9	..	8	2	..	..	..	..	..	1	..	..
1500-1999	59	4	..	31	..	18	3	1	..	..	..	1	..	..	1
2000-2499	261	29	2	134	4	48	13	2	3	6	..	8	10	1	1
2500-2999	990	101	5	526	8	189	71	7	3	15	9	25	27	3	1
3000-3499	1622	178	14	879	19	255	84	18	11	43	10	38	61	10	2
3500-3999	970	146	9	524	7	94	40	11	10	53	7	23	39	3	4
4000-4499	221	27	..	137	3	13	7	..	2	13	1	9	9	..	..
4500-4999	42	7	2	19	1	3	2	..	..	5	..	1	2	..	..
5000 +	6	..	..	4	..	..	..	..	..	2	..	..	..	..	..
UNKNOWN	10	1	..	6	..	..	1	..	..	1	..	..	..	..	1

INFANTS OF LESS THAN 2500 GRAMS ARE CONSIDERED LOW BIRTH WEIGHT

TABLE 24

RESIDENT ILLEGITIMATE LIVE BIRTHS BY RACE AND AGE OF MOTHER
STATE OF HAWAII, 1988

RACE OF MOTHER	AGE OF MOTHER IN YEARS								
	ALL AGES	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49
ALL RACES	4240	23	437	782	1544	847	419	158	29	1
CAUCASIAN	776	1	42	98	236	205	123	62	9	..
HAWAIIAN	57	..	3	3	20	23	4	3	1	..
PART HAWAIIAN	1834	13	245	393	694	319	131	35	4	..
CHINESE	44	..	4	7	13	10	7	2	1	..
FILIPINO	707	6	78	143	280	114	58	19	8	1
JAPANESE	279	..	21	48	94	62	36	15	3	..
PUERTO RICAN	52	..	3	11	21	11	5	1	..	..
KOREAN	39	..	3	8	6	10	9	2	1	..
SAMOAN	143	1	16	28	57	25	10	6	..	..
PORTUGUESE	63	..	3	10	20	18	9	3	..	..
OTHER	113	1	12	18	41	27	10	4	..	..
BLACK	102	1	6	11	50	21	9	3	1	..
VIETNAMESE	21	..	1	3	7	1	7	1	1	..
UNKNOWN	10	..	..	1	5	1	1	2	..	..

TABLE 25

HAWAII RESIDENT BIRTHS OCCURRING OUTSIDE STATE BY AGE AND RACE OF MOTHER AND SEX OF CHILD*
1988

AGE OF MOTHER	TOTAL		RACE OF MOTHER AND SEX OF CHILD																	
			CAUCASIAN		JAPANESE		CHINESE		FILIPINO		HAWAIIAN PT HAW'N		KOREAN		BLACK		OTHER PAC. IS.		OTHER & UNK	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL	15	12	10	9	1	1				2	2				2					
UNDER 15	-	-																		
15 - 19	2	1	1	1	1															
20 - 24	6	4	4	3		1					2									
25 - 29	5	4	3	4											2					
30 - 34	1	3	1	1						2										
35 - 39	1		1																	
40 & OVER	-	-																		

*BIRTHS OCCURRING IN THE UNITED STATES

FIGURE 2
DEATHS OCCURRING IN HAWAII 1900-1988

TABLE 26

TOTAL DEATHS BY PLACE OF OCCURRENCE REALLOCATED TO USUAL RESIDENCE BY RACE
STATE OF HAWAII, 1988a/

GEOGRAPHIC AREA	TOTAL BY PLACE OF OCCURR	TOTAL BY PLACE OF RESIDENCE NUMBER	RATE b/	ALL RACES MALE	FE-MALE	RACE CAUCA-SIAN	HAWN	PT. HAWN	CHI-NESE	FILI-PINO	JAPA-NESE	PUERTO RICAN	KO-REAN	SA-MOAN	BLACK	PORTU GUESE	VIETNA-MESE	OTHER RACES	UN-KNOWN
TOTAL RECORDED	6315	6315	5.8	3772	2543	1737	251	740	398	851	1707	69	98	66	49	265	6	72	6
STATE OF HAWAII	6315	5970	5.4	3534	2436	1503	249	733	388	836	1678	69	95	57	45	263	6	42	6
CTY OF HAWAII	745	793	6.2	471	322	219	37	107	9	118	218	11	5	3	6	53		6	1
CITY OF HILO	471	273	5.8	148	125	54	10	38	3	30	104	5	2	1	2	23		1	
BALANCE OF CTY	274	520	7.4	323	197	165	27	69	6	88	114	6	3	2	4	30		5	1
CTY OF HONOLULU	4708	4306	5.1	2530	1776	1103	155	534	370	523	1203	46	87	50	39	150	6	33	5
CITY-HONOLULU	3701	3450	5.3	1430	1020	626	62	229	303	221	791	21	64	25	14	74	4	14	2
BALANCE OF CTY	1007	1856	4.8	1100	756	477	93	305	67	302	412	25	23	25	25	76	2	19	3
CTY OF KALAWAO	1	2	166.7		2			2											
CTY OF KAUAI	342	339	6.9	211	128	62	15	25	3	88	104	5	1			35		1	
ISL OF KAUAI	342	338	6.9	210	128	62	14	25	3	88	104	5	1			35		1	
ISL OF NIIHAU		1	5.0	1			1												
CTY OF MAUI	519	532	5.7	322	210	119	42	65	6	107	153	7	2	4		25		2	
ISL OF LANAI	17	23	10.3	16	7	1	1	1		14	5					1			
ISL OF MAUI	479	465	5.3	279	186	114	32	53	6	80	143	7	2	3		23		2	
ISL OF MOLOKAI (EXCL KALAWAO)	23	44	6.6	27	17	4	9	11		13	5			1		1			
NONRESIDENT		340		235	105	233	2	5	10	13	29		3	9	4	2		30	
UNKNOWN		5		3	2	1		2		2									

a/EXCLUDES DEATHS OF HAWAII RESIDENTS OCCURRING AND RECORDED IN OTHER REGISTRATION AREAS
b/DEATHS PER 1,000 RESIDENT POPULATION

TABLE 27

RESIDENT DEATHS BY PLACE AND MONTH OF OCCURRENCE
STATE OF HAWAII, 1988

PLACE OF OCCURRENCE		TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK
STATE OF HAWAII	NUMBER	5970	532	489	506	497	475	451	522	484	522	510	462	520	
	PERCENT	100.0	8.9	8.2	8.5	8.3	8.0	7.6	8.7	8.1	8.7	8.5	7.7	8.7	
CTY OF HAWAII		725	57	67	61	51	56	49	63	53	68	63	62	75	
CITY OF HILO		466	36	41	45	30	39	32	37	33	41	41	42	49	
BALANCE OF CTY		259	21	26	16	21	17	17	26	20	27	22	20	26	
CTY OF HONOLULU		4470	400	352	378	380	368	352	397	369	369	374	348	383	
CITY-HONOLULU		3493	329	270	283	295	289	270	322	282	288	299	271	295	
BALANCE OF CTY		977	71	82	95	85	79	82	75	87	81	75	77	88	
CTY OF KALAWAO		1		1											
CTY OF KAUAI		310	28	30	19	25	21	19	25	35	31	27	23	27	
ISL OF KAUAI		310	28	30	19	25	21	19	25	35	31	27	23	27	
ISL OF NIIHAU															
CTY OF MAUI		464	47	39	48	41	30	31	37	27	54	46	29	35	
ISL OF LANAI		16		2	2	2	2		3		4			1	
ISL OF MAUI		425	43	37	41	38	27	29	30	27	49	45	27	32	
ISL OF MOLOKAI		23	4		5	1	1	2	4		1	1	2	2	
NON-RESIDENT															
UNKNOWN															

TABLE 28

RESIDENT DEATHS BY PLACE OF OCCURRENCE, AGE, AND SEX
STATE OF HAWAII, 1988

PLACE OF OCCURRENCE	ALL AGES				AGE AND SEX																		
	TOTAL	MALE	FEMALE	UNK	UNDER 1		1 - 4		5 - 14		15 - 17		18 - 24		25 - 44		45 - 64		65 - 74		75 & OVER		UNK
					M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
STATE OF HAWAII	5970	3534	2436		75	56	11	8	18	10	18	10	76	17	282	120	752	456	850	509	1452	1249	1
CTY OF HAWAII	725	432	293		2	5	3	3	4		4	2	10	4	56	13	89	68	83	66	181	132	
CITY OF HILO	466	276	190		2	4	2	2	1		4		3	2	26	9	55	43	57	38	126	92	
BALANCE OF CTY	259	156	103			1	1	1	3			2	7	2	30	4	34	25	26	28	55	40	
CTY OF HONOLULU	4470	2622	1848		72	50	7	4	13	8	12	5	59	11	185	89	558	347	669	381	1047	953	
CITY-HONOLULU	3493	2056	1437		65	46	5	4	9	7	10	2	39	7	141	59	426	271	526	287	835	754	
BALANCE OF CTY	977	566	411		7	4	2		4	1	2	3	20	4	44	30	132	76	143	94	212	199	
CTY OF KALAWAO	1		1																	1			
CTY OF KAUAI	310	194	116			1		1	1		1		4	1	13	9	40	17	40	24	95	63	
ISL OF KAUAI	310	194	116			1		1	1		1		4	1	13	9	40	17	40	24	95	63	
ISL OF NIIHAU																							
CTY OF MAUI	464	286	178		1		1			2	1	3	3	1	28	9	65	24	58	37	129	101	1
ISL OF LANAI	16	10	6														1		1		8	6	
ISL OF MAUI	425	260	165		1		1			2	1	3	3	1	25	9	56	22	54	35	119	92	1
ISL OF MOLOKAI	23	16	7												3		8	2	3	2	2	3	
NON-RESIDENT																							
UNKNOWN																							

TABLE 29

RESIDENT DEATHS BY AGE AND RACE
STATE OF HAWAII, 1988

AGE IN YEARS	ALL RACES				RACE													
	TOTAL	MALE	FEMALE	UNK	CAUCASIAN	HAWN	PT. HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNK
ALL AGES	5970	3534	2436		1503	249	733	388	836	1678	69	95	57	45	263	6	42	6
UNDER 1	131	75	56		30	1	50	1	19	14			5	8	1		2	
1 - 4	19	11	8		3		7	1	2	1				4				1
5 - 14	28	18	10		2	1	9	2	8	1	1	2	1				1	
15 - 17	28	18	10		6		10		7	2		1		1	1			
18 - 19	26	21	5		8	2	6	1	4	1	1		1	1		1		
20 - 24	67	55	12		17	1	15	2	9	6	2	3	4	5			3	
25 - 34	150	115	35		52	1	30	8	22	13	1	6	7	5	4		1	
35 - 44	252	167	85		100	3	53	8	31	31	2	3	6	6	5	1	3	
45 - 54	386	227	159		95	31	98	14	54	59	1	8	7	2	11		5	1
55 - 64	822	525	297		177	67	136	35	103	216	8	12	9	4	46	1	8	
65 - 74	1359	850	509		383	55	154	82	130	424	17	23	12	4	63		11	1
75 & OVER	2701	1452	1249		630	87	164	234	447	910	36	37	5	5	132	3	8	3
UNKNOWN	1		1				1											

TABLE 30

MALE RESIDENT DEATHS BY COUNTY AND BY SELECTED CAUSES OF DEATH

STATE OF HAWAII 1988

CAUSES OF DEATH	TOTAL	CAUCASIAN	HAWN	PT. HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKNOWN
TOTAL DEATHS	3534	877	130	400	207	611	944	43	48	37	31	168	5	30	3
TUBERCULOSIS, ALL FORMS (010-018,137)	11		1	1		5	3		1						
SYPHILIS AND ITS SEQUELAE (090-097)															
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	109	48	3	9	7	[illegible]	19	1	1	1		5		1	
MALIGNANT NEOPLASM (140-208)	895	259	32	91	45	[illegible]	267	7	14	8	2	31	1	9	
DIGESTIVE ORGANS (150-159)	324	59	12	30	18	55	122	3	9	3	2	10		1	
RESPIRATORY SYSTEM (160-163)	275	91	12	35	13	33	71	2	1	2		11	1	3	
BREAST (174-175)															
GENITAL ORGANS (179-187)	81	28	1	5	3	15	23	1	1	1		3			
URINARY ORGANS (188-189)	35	15		2	1	4	12			1					
LEUKEMIA (204-208)	31	8	2	5	2	3	8	1		1		1			
OTHER (140-208)	149	58	5	14	8	19	31		3			6		5	
DIABETES MELLITUS (250)	78	14	5	7	2	13	25	2	1	3		4		2	
DISEASE OF CIRCULATORY SYSTEM (390-459)	1363	290	57	152	95	252	379	19	11	11	6	80	2	9	
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	1071	238	45	132	80	185	279	16	8	9	4	66	2	7	
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	10	1		3	1	1	2			1	1				
HYPERTENSIVE HEART (402,404)	25	1	1	7	2	6	5		1			2			
ISCHEMIC HEART (410-414)	605	126	22	61	53	104	178	7	6	4	1	40	1	2	
OTHER HEART DISEASE (415-417,420-429)	431	110	22	61	24	74	94	9	1	4	2	24	1	5	
HYPERTENSION (401,403)	6					2	4								
CEREBROVASCULAR DISEASE (430-438)	215	32	8	12	11	54	77	3	3	1	2	10		2	
ARTERIOSCLEROSIS (440)	25	6	2	2	1	4	8					2			
OTHER CIRCULATORY (441-459)	46	14	2	6	3	7	11			1		2			
INFLUENZA/PNEUMONIA (480-487)	120	17	5	5	9	32	39	1	2	1	2	6		1	
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	33	8		4	1	8	8	1	1			2			
PEPTIC ULCER (531-533)	13	2		1	2	4	3					1			
CIRRHOSIS OF LIVER (571)	54	14	2	3	2	6	14	2	2		2	6			1
NEPHRITIS AND NEPHROSIS (580-589)	25	5	1	1	3	3	6	1	2			3			
COMPLICATIONS OF PREGNANCY CHILDBIRTH & PUERPERIUM (630-676)															
CONGENITAL ANOMALIES (740-759)	32	12	1	5	1	7	4					2			
PERINATAL CONDITIONS (760-779)	31	4		19		5					2			1	
SYMPTOMS & ILL-DEFINED COND (780-799)	23	8		2		5	6		1			1			
ALL OTHER DISEASES (BLANKS,000-799)	411	101	14	35	26	77	123	6	3	1	3	18	1	2	1
ACCIDENTAL DEATHS (800-949)	210	48	8	39	10	44	30	3	6	9	5	3		4	1
MOTOR VEHICLE (810-825)	194	2	4	20	6	16	11	2	6	7	3	1		4	
OTHER TRANS. (800-807,826-848)	3	5													
POISONING (850-869)	9	3				2	2								
FALLS (880-888)	25	1	3	5	1	5	6	1				1			
FIRES (890-899)	5	3			1	1	1				1				
DROWNING & SUBMERSIONS (910)	26		1	7	1	8	5								1
FIREARM MISSILES (922)	2					2									
ADVERSE EFFECTS (930-949)	3			2			1								
OTHER ACCIDENTS (800-949)	33	10	1	4	1	10	4			2	1	1			
SUICIDE (950-959)	83	32		16	3	4	13		2	2	4	4	1	1	
HOMICIDE & LEGAL INTERVENTION (960-978)	24	8		6	1	2			1	1	4	1			
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	19	7		4		1	5				1	1			

a/ INCLUDES KALAWAO

b/ RATE PER 100,000 TOTAL RESIDENT POPULATION (MAUI COUNTY INCLUDES KALAUPAPA)

TABLE 30A

FEMALE RESIDENT DEATHS BY COUNTY AND BY SELECTED CAUSES OF DEATH

STATE OF HAWAII 1988

CAUSES OF DEATH	TOTAL	CAUCASIAN	HAWN	PT HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKNOWN
TOTAL DEATHS	2436	626	119	333	181	225	734	26	47	20	14	95	1	12	3
TUBERCULOSIS, ALL FORMS (010-018,137)	4					1	3								
SYPHILIS AND ITS SEQUELAE (090-097)															
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	38	12	4	2	1	3	13			1		2			
MALIGNANT NEOPLASM (140-208)	621	156	26	81	57	58	195	8	9	3	3	20		4	1
DIGESTIVE ORGANS (150-159)	199	40	7	23	19	14	77	1	6		1	8		3	
RESPIRATORY SYSTEM (160-163)	114	38	10	18	7	11	22	4		1		2			1
BREAST (174-175)	90	22	2	11	11	10	28		1	1		3		1	
GENITAL ORGANS (179-187)	72	16	3	7	12	7	23		1	1		2			
URINARY ORGANS (188-189)	16	3			2	1	7					3			
LEUKEMIA (204-208)	17	2		6	1	3	5								
OTHER (140-208)	113	35	4	16	5	12	33	3	1		2	2			
DIABETES MELLITUS (250)	67	7	11	14	4	6	20	1	1	1		2			
DISEASE OF CIRCULATORY SYSTEM (390-459)	1050	249	66	155	76	58	311	8	24	7	2	49	1	2	2
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	787	190	52	123	58	72	215	8	17	4	2	41	1	2	2
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	19	6	2	7	1	2						1			
HYPERTENSIVE HEART (402,404)	35	3	3	6		5	15	1				2			
ISCHEMIC HEART (410-414)	387	90	31	48	34	32	109	4	7	2	1	27		2	
OTHER HEART DISEASE (415-417,420-429)	346	91	16	62	23	33	91	3	10	2	1	11	1		2
HYPERTENSION (401,403)	6	1	1	1			3								
CEREBROVASCULAR DISEASE (430-438)	211	46	11	24	15	23	76		6	2		8			
ARTERIOSCLEROSIS (440)	14	5		2	1		6								
OTHER CIRCULATORY (441-459)	32	7	2	5	2	3	11		1	1					
INFLUENZA/PNEUMONIA (480-487)	78	16	2	7	10	6	31	1	2		1	2			
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	27	9		4	1	5	5					3			
PEPTIC ULCER (531-533)	7	1			1	1	4								
CIRRHOSIS OF LIVER (571)	21	10		1	1	1	5		1	1		1			
NEPHRITIS AND NEPHROSIS (580-589)	16	4		1	1	1	6	1				1		1	
COMPLICATIONS OF PREGNANCY CHILDBIRTH & PUERPERIUM (630-676)	1			1											
CONGENITAL ANOMALIES (740-759)	18	6		1	1	3	3			3	1				
PERINATAL CONDITIONS (760-779)	30	5		13		3	4				4			1	
SYMPTOMS & ILL-DEFINED COND (780-799)	19	4	1	7	1	3	2				1				
ALL OTHER DISEASES (BLANKS,000-799)	327	103	9	28	21	19	117	5	6	2		13		4	
ACCIDENTAL DEATHS (800-949)	71	30		11	6	9	9		1	1	2	2			
MOTOR VEHICLE (810-825)	38	15		5	4	7	5		1		1				
OTHER TRANS. (800-807,826-848)	2	2													
POISONING (850-869)	1						1								
FALLS (880-888)	12	6		1	1		1			1		2			
FIRES (890-899)	4	1		1		1					1				
DROWNING & SUBMERSIONS (910)	2	2													
FIREARM MISSILES (922)															
ADVERSE EFFECTS (930-949)															
OTHER ACCIDENTS (800-949)	12	4		4	1	1	2								
SUICIDE (950-959)	20	8		2		2	5		3						
HOMICIDE & LEGAL INTERVENTION (960-978)	17	4		4		5	1	2		1					
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	4	2		1		1									

a/INCLUDES KALAWAO

b/RATE PER 100,000 TOTAL RESIDENT POPULATION (MAUI COUNTY INCLUDES KALAUPAPA)

TABLE 31

TOTAL RESIDENT DEATHS RECORDED IN HAWAII BY AGE GROUPS FOR SELECTED YEARS
STATE OF HAWAII: 1988, 1978, AND 1968

AGE IN YEARS	1988		1978[a/]		1968[a/]	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
ALL AGES	5,970	100.0	4,508	100.0	4,113	100.0
UNDER 1	131	2.2	185	4.1	264	6.4
1 - 4	19	0.3	29	0.7	45	1.1
5 - 9	13	0.2	17	0.4	39	0.9
10 - 14	15	0.3	13	0.3	22	0.5
15 - 19	54	0.9	67	1.5	58	1.4
20 - 24	67	1.1	105	2.3	68	1.7
25 - 34	150	2.5	170	3.8	117	2.8
35 - 44	252	4.2	176	3.9	221	5.4
45 - 54	386	6.5	370	8.2	478	11.6
55 - 64	822	13.8	747	16.6	715	17.4
65 - 74	1,359	22.8	975	21.6	862	21.0
75 - 84	1,596	26.7	1,007	22.3	818	19.9
85 & OVER	1,105	18.5	646	14.3	404	9.8
UNKNOWN	1	0.0	1	0.0	2	0.1

MEDIAN AGE AT DEATH 1988: 72.9 YEARS; 1978: 68.8 YEARS; 1968: 65.3 YEARS

[a/]SOURCE: DEPARTMENT OF HEALTH ANNUAL STATISTICAL REPORT, 1978

TABLE 32

RESIDENT DEATHS BY AGE, SEX, AND MARITAL STATUS
STATE OF HAWAII, 1988

AGE IN YEARS	NUMBER BY MARITAL STATUS																	
	MALE						FEMALE						UNKNOWN SEX					
	TOTAL	SIN	MAR	WID	DIV	UNK	TOTAL	SIN	MAR	WID	DIV	UNK	TOTAL	SIN	MAR	WID	DIV	UNK
ALL AGES	3534	676	2069	496	285	8	2436	213	807	1220	196							
UNDER 15	104	104					74	74										
15 - 17	18	18					10	9	1									
18 - 19	21	20	1				5	5										
20 - 24	55	45	9		1		12	6	4		2							
25 - 34	115	70	38		7		35	16	11		8							
35 - 44	167	64	74		29		85	14	50	4	17							
45 - 54	227	37	148	2	39	1	159	14	103	15	27							
55 - 64	525	88	352	21	63	1	297	14	188	49	46							
65 - 74	850	81	599	95	74	1	509	21	245	197	46							
75 - 84	970	94	623	189	60	4	626	26	159	413	28							
85 & OVER	482	55	225	189	12	1	623	13	46	542	22							
UNKNOWN							1	1										

TABLE 33

LEADING CAUSES OF DEATH FOR 1988 AND COMPARATIVE DATA FOR SELECTED YEARS
STATE OF HAWAII, 1988, 1978, 1968

		1988			1978			1968 -		
	Rank	No.[a]	Rate[b]	Percent	No.[c]	Rate[b]	Percent	No.[c]	Rate[b]	Percent
All Causes	..	5,970	543.6	100.0	4,508	502.8	100.0	4,192	584.1	100.0
Diseases of the Heart (390-398, 402, 404, 410-429)	1	1,858	169.2	31.1	1,441	160.7	32.0	1,374	191.5	32.8
Malignant Neoplasms (140-208)	2	1,516	138.0	25.3	1,015	113.2	22.5	800	111.5	19.1
Cerebrovascular Diseases (430-438)	3	426	38.8	7.1	445	49.6	10.0	351	48.9	8.4
All Accidents (E800-E949)	4	281	25.6	4.7	280	31.2	6.2	274	38.2	6.5
Influenza and Pneumonia (480-487)	5	198	18.0	3.3	145	16.1	3.2	175	24.4	4.2
Chronic Obstructive Pulmonary Disease (490-496)	6	186	16.9	3.1	n.a.	--	--	n.a.	--	--
Diabetes Mellitus (250)	7	145	13.2	2.4	119	13.3	2.6	100	13.9	2.4
Suicide (E950-E959)	8	103	9.4	1.7	106	11.8	2.4	58	8.1	1.4
Other Circulatory Diseases (441-459)	9	78	7.1	1.3	60	6.7	1.3	n.a.	--	--
Cirrhosis of the Liver (571)	10	75	6.8	1.2	65	7.2	1.4	65	9.1	1.6
Septicemia (038)	11	67	6.1	1.1	n.a.	--	--	n.a.	--	--
Acquired Immune Deficiency Syndrome (042-044)	12	63	5.7	1.0	0	--	--	0	--	--
Perinatal Conditions (760-779)	13	61	5.5	1.0	87	9.7	1.9	n.a.	--	--
Congenital Anomalies (740-759)	14	50	4.6	0.8	56	6.2	1.2	72	10.0	1.7
Nephritis and Nephrosis (580-589)	15	41	3.7	0.6	22	2.4	0.5	36	5.0	.9
Homicide (960-978)	15	41	3.7	0.6	55	6.1	1.2	n.a.	--	--
All Other Causes (Residual)	16	781	71.1	13.0	646	72.1	14.3	n.a.	--	--

[a] Resident deaths only (including resident military personnel)
[b] Rate of death per 100,000 total resident population
[c] Source: Annual Statistical Report of the Health Department
[d] Number and death are based on civilian population exclusive of military personnel stationed in Hawaii
[e] Does not include Emphysema
n.a. = Not available

TABLE 34

RESIDENT DEATHS IN HAWAII, LEADING CAUSES OF DEATH FOR AGE GROUPS

STATE OF HAWAII 1988

ALL AGE GROUPS	Total	Rate per 10,000 Resident Population	Male		Female	
			Number	Percent	Number	Percent
Total	5,970	54.3	3,534	100.0	2,436	100.0
1. Diseases of the Heart	1,858	16.9	1,071	30.3	787	32.3
2. Malignant Neoplasm	1,516	13.8	895	25.3	621	25.5
3. Cerebrovascular Disease	426	3.9	215	6.1	211	8.7
4. Influenza and Pneumonia	198	1.8	120	3.4	78	3.2
5. Diabetes Mellitus	145	1.3	78	2.2	67	2.7
6. Motor Vehicle Accidents	142	1.3	104	2.9	38	1.6
7. Other Accidents (less M.V.)	139	1.3	106	3.0	33	1.3
8. Suicide	103	0.9	83	2.4	20	0.8
9. Other Circulatory Diseases	78	0.7	46	1.3	32	1.3
10. Cirrhosis of the Liver	75	0.7	54	1.5	21	0.9
11. Septicemia	67	0.6	38	1.1	29	1.2
All Other Causes	1,223	11.1	724	20.5	499	20.5

	Total	Male	Female
UNDER 1 YEAR OLD - TOTAL	131	75	56
1. Perinatal Conditions	60	31	29
2. Congenital Anomalies	40	27	13
3. Sudden Infant Death Syndrome	16	7	9
All Other Causes	15	10	5
1 TO 4 YEAR OLD - TOTAL	19	11	8
1. Motor Vehicle Accidents	5	1	4
2. Accidents (less Motor V.)	4	4	0
2. Congenital Anomalies	4	3	1
All Other Causes	6	3	3
5-14 YEAR OLD - TOTAL	28	18	10
1. Malignant Neoplasm	7	3	4
2. Motor Vehicle Accidents	6	5	1
3. Accidents (less Motor V.)	4	4	0
All Other Causes	11	6	5

	Total	Male	Female
15-24 YEAR OLD - TOTAL	121	94	27
1. Motor Vehicle Accidents	60	45	15
2. Suicide	20	19	1
3. Accidents (less Motor V.)	16	13	3
4. Malignant Neoplasm	5	2	3
5. Bronchitis, Emphysema, Asthma	3	3	0
5. Homicide & Legal Intervention	3	2	1
5. Infective & Parasitic Disease	3	3	0
5. Peptic Ulcer	3	2	1
All Other Causes	8	5	3
25-34 YEAR OLDS - TOTAL	150	115	35
1. Suicide	28	24	4
2. Motor Vehicle Accidents	23	21	2
3. Acquired Immune Def. Syndrome	21	21	0
4. Homicide & Legal Interv.	20	10	10
5. Accident (less Motor V.)	17	15	2
6. Malignant Neoplasm	12	7	5
7. Diseases of the Heart	8	7	1
8. Cerebrovascular Disease	3	2	1
All Other Causes	18	8	10

TABLE 34 (Cont'd.)

RESIDENT DEATHS IN HAWAII, LEADING CAUSES OF DEATH FOR AGE GROUPS

STATE OF HAWAII 1988

	Total	Male	Female
35-44 YEAR OLD - TOTAL	252	167	85
1. Malignant Neoplasm	54	29	25
2. Diseases of the Heart	45	26	19
3. Acquired Immune Def. Syndrome	24	13	11
4. Motor Vehicle Accidents	19	13	6
5. Suicide	15	10	5
6. Cerebrovascular Disease	14	10	4
7. Accidents (less Motor V.)	13	10	3
8. Homicide & Legal Intervention	8	6	2
9. Bronchitis, Emphysema, Asthma	6	3	3
9. Diabetes Mellitus	6	3	3
All Other Causes	49	45	4
45-54 YEAR OLD - TOTAL	386	227	159
1. Malignant Neoplasm	139	68	71
2. Diseases of the Heart	89	64	25
3. Cerebrovascular Diseases	24	10	14
4. Diabetes Mellitus	16	9	7
5. Suicide	15	12	3
6. Cirrhosis of the Liver	14	10	4
7. Accidents (less Motor V.)	12	7	5
8. Acquired Immune Def. Syndrome	9	9	0
9. Motor Vehicle Accidents	7	5	2
10. Bronchitis, Emphysema, Asthma	4	1	3
All Other Causes	57	32	25
55-64 YEAR OLD - TOTAL	822	525	297
1. Malignant Neoplasm	313	185	128
2. Diseases of the Heart	270	192	78
3. Cerebrovascular Diseases	40	22	18
4. Cirrhosis of the Liver	24	17	7
4. Diabetes Mellitus	24	15	9
5. Accidents (less Motor V.)	12	9	3
5. Other Circulatory Diseases	12	4	8
6. Septicemia	11	7	4
7. Influenza & Pneumonia	10	6	4
8. Acquired Immune Def. Syndrome	6	5	1
All Other Causes	100	63	37

	Total	Male	Female
65-74 YEAR OLD - TOTAL	1,359	850	509
1. Malignant Neoplasm	472	282	190
2. Diseases of the Heart	445	295	150
3. Cerebrovascular Diseases	80	45	35
4. Diabetes Mellitus	40	24	16
5. Influenza & Pneumonia	32	26	6
6. Other Circulatory Diseases	25	16	9
7. Cirrhosis of the Liver	22	15	7
8. Accidents (less Motor V.)	14	13	1
9. Suicide	12	9	3
10. Septicemia	10	5	5
All Other Causes	207	120	87
75-84 YEAR OLD - TOTAL	1,596	970	626
1. Diseases of the Heart	550	312	238
2. Malignant Neoplasm	379	251	128
3. Cerebrovascular Diseases	154	84	70
4. Influenza & Pneumonia	64	40	24
5. Diabetes Mellitus	40	19	21
6. Accidents (less Motor V.)	26	18	8
7. Other Circulatory Diseases	24	17	7
7. Septicemia	24	18	6
8. Nephritis & Nephrosis	21	15	6
9. Bronchitis, Emphysema, Asthma	20	14	6
All Other Causes	294	182	112
OVER 84 YEARS OLD - TOTAL	1,106	482	624
1. Diseases of the Heart	447	173	274
2. Malignant Neoplasm	135	68	67
3. Cerebrovascular Diseases	110	42	68
4. Influenza & Pneumonia	84	44	40
5. Accidents (less Motor V.)	19	11	8
5. Arteriosclerosis	19	8	11
6. Diabetes Mellitus	18	7	11
7. Septicemia	13	4	9
8. Bronchitis, Emphysema, Asthma	10	7	3
8. Other Circulatory Diseases	10	4	6
All Other Causes	241	114	127

TABLE 35

TOTAL RESIDENT DEATHS BY COUNTY AND BY SELECTED CAUSES OF DEATH

STATE OF HAWAII 1988

	STATE TOTAL[a/]		HAWAII COUNTY		HONOLULU COUNTY		KAUAI COUNTY		MAUI COUNTY	
	NUMBER	RATE[b/]	NUMBER	RATE[b/]	NUMBER	RATE[b/]	NUMBER	RATE[b/]	NUMBER	RATE[b/]
TOTAL DEATHS	5970	543.6	793	675.1	4304	513.3	339	687.7	532	572.0
TUBERCULOSIS, ALL FORMS (010-018,137)	15	1.4	2	1.7	7	0.8	1	2.0	5	5.4
SYPHILIS AND ITS SEQUELAE (090-097)	--	--	--	--	--	--	--	--		
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	146	13.3	18	15.3	110	13.1	5	10.1	13	14.0
MALIGNANT NEOPLASM (140-208)	1516	138.0	186	158.3	1120	133.6	73	148.0	130	139.8
DIGESTIVE ORGANS (150-159)	523	47.6	65	55.3	390	46.5	30	60.1	38	40.9
RESPIRATORY SYSTEM (160-163)	389	35.4	56	47.7	279	33.3	17	34.5	36	38.7
BREAST (174-175)	90	8.2	7	6.0	71	8.5	2	4.1	10	10.8
GENITAL ORGANS (179-187)	153	13.9	14	11.9	119	14.2	4	8.1	16	17.2
URINARY ORGANS (188-189)	51	4.6	5	4.3	39	4.7	1	2.0	6	6.5
LEUKEMIA (204-208)	48	4.4	6	5.1	34	4.1	5	10.1	3	3.2
OTHER (140-208)	262	23.9	33	28.1	194	23.1	14	28.4	21	22.6
DIABETES MELLITUS (250)	145	13.2	16	13.6	112	13.4	6	12.2	11	11.8
DISEASE OF CIRCULATORY SYSTEM (390-459)	2413	219.7	316	269.0	1733	206.7	134	271.8	230	247.3
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	1858	169.2	230	195.8	1334	159.1	108	219.1	186	200.0
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	29	2.6	6	5.1	22	2.6	0	--	1	1.1
HYPERTENSIVE HEART (402,404)	60	5.5	3	2.6	44	5.2	7	14.2	6	6.5
ISCHEMIC HEART (410-414)	992	90.3	145	123.4	699	83.4	60	121.7	88	94.6
OTHER HEART DISEASE (415-417,420-429)	777	70.8	76	64.7	569	67.9	41	83.2	91	97.8
HYPERTENSION (401,403)	12	1.1	1	0.9	8	1.0	0	--	3	3.2
CEREBROVASCULAR DISEASE (430-438)	426	38.8	59	50.2	317	37.8	17	34.5	33	35.5
ARTERIOSCLEROSIS (440)	39	3.6	10	8.5	23	2.7	3	6.1	3	3.2
OTHER CIRCULATORY (441-459)	78	7.1	16	13.6	51	6.1	6	12.2	5	5.4
INFLUENZA/PNEUMONIA (480-487)	198	18.0	22	18.7	143	17.1	13	26.4	19	20.4
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	60	5.5	8	6.8	45	5.4	3	34.5	4	4.3
PEPTIC ULCER (531-533)	20	1.8	5	4.3	13	1.6	2	4.1	0	--
CIRRHOSIS OF LIVER (571)	75	6.8	9	7.7	56	6.7	5	10.1	5	5.4
NEPHRITIS AND NEPHROSIS (580-589)	41	3.7	7	6.0	26	3.1	4	8.1	4	4.3
COMPLICATIONS OF PREGNANCY CHILDBIRTH & PUERPERIUM (630-676)	2	0.2	0	--	2	0.2	0	--	0	--
CONGENITAL ANOMALIES (740-759)	50	4.6	6	5.1	36	4.3	2	4.1	6	6.5
PERINATAL CONDITIONS (760-779)	61	5.6	10	8.5	45	5.4	2	4.1	4	4.3
SYMPTOMS & ILL-DEFINED COND (780-799)	42	3.8	10	8.5	28	3.3	1	2.0	3	3.2
ALL OTHER DISEASES (BLANKS,000-799)	738	67.2	84	71.5	536	63.9	60	121.7	58	62.4
ACCIDENTAL DEATHS (800-949)	281	25.6	59	50.2	177	21.1	19	38.5	26	28.0
MOTOR VEHICLE (810-825)	142	12.9	33	28.1	83	9.9	11	22.3	15	16.1
OTHER TRANS. (800-807,826-848)	5	0.5	1	0.9	3	0.4	0	--	1	1.1
POISONING (850-869)	10	0.9	1	0.9	6	0.7	0	--	3	3.2
FALLS (880-888)	37	3.4	8	6.8	25	3.0	3	6.1	1	1.1
FIRES (890-899)	9	0.8	1	0.9	8	1.0	0	--	0	--
DROWNING & SUBMERSIONS (910)	28	2.5	9	7.7	14	1.7	1	2.0	4	4.3
FIREARM MISSILES (922)	2	0.2	1	0.9	0	--	1	2.0		
ADVERSE EFFECTS (930-949)	3	0.3	0	--	3	0.4	0	--		
OTHER ACCIDENTS (800-949)	45	4.1	5	4.3	35	4.2	3	6.1	2	2.2
SUICIDE (950-959)	103	9.4	17	14.5	73	8.7	3	6.1	10	10.8
HOMICIDE & LEGAL INTERVENTION (960-978)	41	3.7	11	9.4	26	3.1	3	6 1	1	1.1
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	23	2.1	7	6.0	10	1.2	3	6.1	3	3.2

a/ INCLUDES KALAWAO

b/ RATE PER 100,000 TOTAL RESIDENT POPULATION (MAUI COUNTY INCLUDES KALAUPAPA)

TABLE 35A

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1988

CAUSES OF DEATH UNKNOWN SEX IN MALE CATEG.	ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	3534	2436	75	56	11	8	8	5	10	5	18	10	21	5	55	12	47	19	68	16	68	42
TUBERCULOSIS, ALL FORMS (010-018,137)	11	4											1									
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	108	38	2	2											3		6	1	15		9	1
MALIGNANT NEOPLASM (140-208)	895	621					1	3	2	1	1			2	1	1	1	2	6	3	15	10
DIGEST. ORGANS (150-159)	324	199															1	2			6	2
RESPIRATORY SYSTEM (160-163)	275	114																			1	
BREAST (174-175)		90																		2		3
GENITAL ORGANS (179-187)	81	72																				1
URINARY ORGANS (188-189)	35	16																			2	
LEUKEMIA (204-208)	31	17					1	1	1					1		1					3	1
OTHER (140-208)	149	113						2	1	1	1			1	1				6	1	3	3
DIABETES MELLITUS (250)	78	67													1						1	1
DISEASE OF CIRCULATORY SYSTEM (390-459)	1363	1050		1	1					1				1	1		6		5	2	8	11
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	1071	787		1	1					1					1		3		4	1	5	10
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	10	19			1					1					1				1			3
HYPERTENSIVE HEART (402,404)	25	35																				
ISCHEMIC HEART (410-414)	605	387															2		2		1	1
OTHER HEART DISEASE (415-417,420-429)	431	346		1													1		1	1	4	6
HYPERTENSION (401,403)	6	6																				
CEREBROVASCULAR DISEASE (430-438)	215	211												1			1		1	1	3	1
ARTERIOSCLEROSIS (440)	25	14																				
OTHER CIRCULATORY (441-459)	46	32															2					
INFLUENZA/PNEUMONIA (480-487)	120	78	2							1											1	1
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	33	27									2				1				1	1		2
PEPTIC ULCER (531-533)	13	7																				
CIRRHOSIS OF LIVER (571)	54	21																				
NEPHRITIS AND NEPHROSIS (580-589)	25	16																1			1	
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)	1	1										1										
CONGENITAL ANOMALIES (740-759)	32	18	27	13	3	1		1														
PERINATAL CONDITIONS (760-779)	31	30	31	29		1																
SYMPTOMS & ILL-DEFINED COND (780-799)	23	19	7	9			1											1	1		1	1
ALL OTHER DISEASES (BLANKS,000-799)	411	327	3	2	1	2	1	1	1	1		1			1	1		3	3	2	6	1
ACCIDENTAL DEATHS (800-949)	210	71	2		5	4	5		4	1	10	8	14	2	34	8	23	2	13	2	12	7
MOTOR VEHICLE (810-825)	104	38			1	4	2		3	1	7	8	11	1	27	6	17		4	2	7	5
OTHER TRANS. (800-807,826-848)	3	2															2					
POISONING (850-869)	9	1									1						1		3			1
FALLS (880-888)	25	12					1						2		2	1		1	1			
FIRES (890-899)	5	4			1				1						1	1		1				
DROWNING & SUBMERSIONS (910)	26	2			3		2				1				2		3		1		4	
FIREARM MISSILES (922)	2										1				1							
ADVERSE EFFECTS (930-949)	3																					
OTHER ACCIDENTS (800-949)	33	12	2										1	1	1				4		1	1
SUICIDE (950-959)	83	20							2		3		6		10	1	7	2	17	2	7	2
HOMICIDE & LEGAL INTERVENTION (960-978)	24	17			1				1						2	1	4	6	6	4	2	2
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	19	4	1								2				1			1	1		5	3

TABLE 35A (CONT'D)

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1988

UNKNOWN SEX IN MALE CATEG.	40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UN-KNOWN	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	99	43	106	76	121	83	205	119	316	178	415	243	435	266	533	305	437	321	482	624		
TUBERCULOSIS, ALL FORMS (010-018,137)			1						1					1	4	1	1	1	3	1		
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	14	1	4		6	2	6	2	8	4	5	2	6	5	12	5	7	4	5	9		
MALIGNANT NEOPLASM (140-208)	14	15	28	31	40	40	74	55	111	73	148	90	134	100	152	71	99	57	68	67		
DIGEST. ORGANS (150-159)	4	3	9	5	17	10	21	14	53	17	58	26	51	34	44	27	38	22	22	37		
RESPIRATORY SYSTEM (160-163)	6	3	7	4	13	8	32	13	36	20	53	18	42	20	52	12	23	6	10	10		
BREAST (174-175)		3		9		11		9		18		8		11		8		4		4		
GENITAL ORGANS (179-187)	1	1		6	2	1	3	7	2	9	8	18	15	9	17	8	16	7	17	5		
URINARY ORGANS (188-189)			1	1	2			3	2	2	2	1	7	3	12	2	4	1	3	3		
LEUKEMIA (204-208)		1	3	3		3	2	1	4		1	1	3	3	8	1	3		2			
OTHER (140-208)	3	4	8	3	6	7	16	8	14	7	26	18	16	20	19	13	15	17	14	8		
DIABETES MELLITUS (250)	2	2	3	4	6	3	4	2	11	7	11	10	13	6	9	12	10	9	7	11		
DISEASE OF CIRCULATORY SYSTEM (390-459)	29	12	33	18	44	24	87	42	132	62	177	94	189	101	223	151	198	168	230	362		
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	21	9	28	8	36	17	81	34	111	44	139	72	156	78	169	106	143	132	173	274		
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)		2	1	1		3	2			1		2	2	1		2	1	1	1	2		
HYPERTENSIVE HEART (402,404)	1		1				4	1	2	2	4	4	3		3	9	1	7	6	12		
ISCHEMIC HEART (410-414)	5		17	3	20	6	34	15	67	24	78	28	99	39	98	57	93	74	89	140		
OTHER HEART DISEASE (415-417,420-429)	15	7	9	4	16	8	41	18	42	17	57	38	52	38	68	38	48	50	77	120		
HYPERTENSION (401,403)				1							1		1		1	1		1	3	3		
CEREBROVASCULAR DISEASE (430-438)	7	3	5	9	5	5	5	2	17	16	24	17	21	18	43	37	41	33	42	68		
ARTERIOSCLEROSIS (440)	1								1		3		5	1	1	1	6	1	8	11		
OTHER CIRCULATORY (441-459)					3	2	1	6	3	2	10	5	6	4	9	6	8	1	4	6		
INFLUENZA/PNEUMONIA (480-487)	1			1		1	3	1	3	3	10	3	16	3	17	10	23	14	44	40		
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	3	1		2	1	1		1	2	3		5	2	2	9	2	5	4	7	3		
PEPTIC ULCER (531-533)							1		2	1		1	3	1	1	2	3	2	3			
CIRRHOSIS OF LIVER (571)	2		6	3	4	1	7	2	10	5	10	4	5	3	4	2	3		2	1		
NEPHRITIS AND NEPHROSIS (580-589)	1									2	3	1	3	2	8	2	7	4	3	4		
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)					1																	
CONGENITAL ANOMALIES (740-759)			1	1			1					2										
PERINATAL CONDITIONS (760-779)																						
SYMPTOMS & ILL-DEFINED COND (780-799)	2	1			1						2		3	1	2		1		2	6		
ALL OTHER DISEASES (BLANKS,000-799)	10	6	10	7	7	8	20	8	27	15	37	27	45	37	80	45	66	52	93	108		
ACCIDENTAL DEATHS (800-949)	11	2	7	4	5	3	4	4	5	2	7	2	12	3	10	2	13	6	14	9		
MOTOR VEHICLE (810-825)	6	1	3	1	2	1		1		2	2	2	4	2	2		3		3	1		
OTHER TRANS. (800-807,826-848)	1	1						1														
POISONING (850-869)							1		1						1		1					
FALLS (880-888)			1					1	1		2		3		2	1	4	2	6	6		
FIRES (890-899)								1									1	1	1			
DROWNING & SUBMERSIONS (910)	2		2	2	1				2		1				2							
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)													1		1		1					
OTHER ACCIDENTS (800-949)	2		1	1	2	2	3		1		2		4	1	2	1	3	3	4	2		
SUICIDE (950-959)	3	3	8	3	4		2	2	2		5	2	4	1	2				1	2		
HOMICIDE & LEGAL INTERVENTION (960-978)	4		2	2	2					1										1		
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	3		3						2								1					

TABLE 35B

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
HONOLULU COUNTY 1988

CAUSES OF DEATH (UNKNOWN SEX IN MALE CATEG.)	ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	2530	1775	58	43	8	4	4	4	7	4	11	5	14	3	45	6	29	14	47	11	39	27
TUBERCULOSIS, ALL FORMS (010-018,137)	6	1																				
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	84	26	2	2											3		4	1	11		6	
MALIGNANT NEOPLASM (140-208)	653	473						3	1	1				1	1		1	2	5	2	10	8
DIGEST. ORGANS (150-159)	240	150															1	2			3	2
RESPIRATORY SYSTEM (160-163)	195	84																				
BREAST (174-175)		71																		2		2
GENITAL ORGANS (179-187)	57	62																				1
URINARY ORGANS (188-189)	28	11																			2	
LEUKEMIA (204-208)	23	11						1													3	
OTHER (140-208)	110	84						2	1	1				1	1				5		2	3
DIABETES MELLITUS (250)	65	47													1						1	1
DISEASE OF CIRCULATORY SYSTEM (390-459)	981	752			1					1				1			3		4	1	6	8
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	775	559			1					1							2		3		4	7
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	8	14			1					1									1			2
HYPERTENSIVE HEART (402,404)	21	23																				
ISCHEMIC HEART (410-414)	422	277															1		2		1	1
OTHER HEART DISEASE (415-417,420-429)	324	245															1				3	4
HYPERTENSION (401,403)	4	4																				
CEREBROVASCULAR DISEASE (430-438)	157	160												1					1	1	2	1
ARTERIOSCLEROSIS (440)	17	6																				
OTHER CIRCULATORY (441-459)	28	23															1					
INFLUENZA/PNEUMONIA (480-487)	80	63	2																		1	
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	29	16									2				1				1	1		1
PEPTIC ULCER (531-533)	8	5																				
CIRRHOSIS OF LIVER (571)	40	16																				
NEPHRITIS AND NEPHROSIS (580-589)	17	9																				
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)	1	1										1										
CONGENITAL ANOMALIES (740-759)	23	13	20	11	2	1																
PERINATAL CONDITIONS (760-779)	22	23	22	22		1																
SYMPTOMS & ILL-DEFINED COND (780-799)	14	14	6	6														1			1	1
ALL OTHER DISEASES (BLANKS,000-799)	290	246	3	2	1	2	1	1	1	1					1	1		2	2	2	3	
ACCIDENTAL DEATHS (800-949)	132	95	2		3		3		2	1	7	4	9	1	26	5	12	2	8		3	5
MOTOR VEHICLE (810-825)	63	20			1		1		1	1	5	4	7		20	3	10		1		1	4
OTHER TRANS. (800-807,826-848)	1	2															1					
POISONING (850-869)	5	1									1								2			1
FALLS (880-888)	16	9					1						1		2	1		1	1			
FIRES (890-899)	5	3			1				1						1	1		1				
DROWNING & SUBMERSIONS (910)	13	1			1		1				1				2		1				1	
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)	3																					
OTHER ACCIDENTS (800-949)	26	9	2										1	1	2				4		1	
SUICIDE (950-959)	58	15							2				5		9		6	2	12	2	5	2
HOMICIDE & LEGAL INTERVENTION (960-978)	17	9			1				1						2		3	4	4	3	1	1
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	10		1								2				1						2	

TABLE 35B (CONT'D)

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
HONOLULU COUNTY 1988

UNKNOWN SEX IN MALE CATEG.	40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UN-KNOWN	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	68	34	63	52	91	62	154	80	228	133	315	170	330	191	389	243	311	239	319	449		
TUBERCULOSIS, ALL FORMS (010-018,137)									1						1		1	1	3			
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	11	1	4		5		5		5	4	4	2	6	5	10	4	4	3	4	4		
MALIGNANT NEOPLASM (140-208)	12	11	15	21	27	27	49	42	79	59	115	67	110	76	112	56	73	44	43	53		
DIGEST. ORGANS (150-159)	3	3	7	2	11	8	15	11	40	15	43	17	43	26	32	19	28	16	14	29		
RESPIRATORY SYSTEM (160-163)	6	1	1	4	11	5	21	11	23	13	42	13	34	15	37	11	14	3	6	8		
BREAST (174-175)		2		6		5		7		17		8		10		7		3		2		
GENITAL ORGANS (179-187)		1		5		1	3	6	2	8	5	15	12	7	12	6	14	7	9	5		
URINARY ORGANS (188-189)			1		2			2	1	1	2	1	7	2	8	2	4	1	1	2		
LEUKEMIA (204-208)			1	2		2	1	1	4		1	1	2	3	7	1	2		2			
OTHER (140-208)	3	4	5	2	3	6	9	4	9	5	22	12	12	13	16	10	11	14	11	7		
DIABETES MELLITUS (250)		2	3	4	6	3	4	1	11	4	9	4	11	4	5	11	8	7	6	6		
DISEASE OF CIRCULATORY SYSTEM (390-459)	23	8	18	13	31	20	72	29	99	45	132	65	136	69	161	119	142	119	153	254		
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	15	7	14	4	26	14	66	23	84	33	106	50	111	54	124	84	104	92	115	190		
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)		2		1		2	2			1			2	1		1	1	1	1	2		
HYPERTENSIVE HEART (402,404)	1		1				4		2	2	3	4	3		2	5		4	5	8		
ISCHEMIC HEART (410-414)	4		7	2	14	5	26	12	49	16	57	22	66	26	69	44	68	52	58	97		
OTHER HEART DISEASE (415-417,420-429)	10	5	6	1	12	7	34	11	33	14	46	24	40	27	53	34	35	35	51	83		
HYPERTENSION (401,403)				1							1		1			1		1	2	1		
CEREBROVASCULAR DISEASE (430-438)	7	1	4	8	3	4	5	2	13	11	18	13	15	12	31	27	28	25	30	54		
ARTERIOSCLEROSIS (440)	1										2		4		1	1	6		3	5		
OTHER CIRCULATORY (441-459)					2	2	1	4	2	1	5	2	5	3	5	6	4	1	3	4		
INFLUENZA/PNEUMONIA (480-487)				1		1	3	1	3	2	8	3	13	3	13	8	12	9	25	35		
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	3	1		1	1	1			1	2		3	1		9	2	5	3	5	1		
PEPTIC ULCER (531-533)									2	1		1	3			1	1	2	2			
CIRRHOSIS OF LIVER (571)	1		3	2	4	1	7	1	7	4	6	3	4	2	3	2	3		2	1		
NEPHRITIS AND NEPHROSIS (580-589)	1									1	2		1	2	5	1	6	2	2	3		
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)					1																	
CONGENITAL ANOMALIES (740-759)			1	1																		
PERINATAL CONDITIONS (760-779)																						
SYMPTOMS & ILL-DEFINED COND (780-799)		1			1								2	1	1				1	4		
ALL OTHER DISEASES (BLANKS,000-799)	5	5	8	5	6	7	12	4	18	10	30	18	29	26	60	37	46	44	64	79		
ACCIDENTAL DEATHS (800-949)	5	2	4	3	4	2	1	1	1	1	5	2	10	2	8	2	10	5	9	7		
MOTOR VEHICLE (810-825)	3	1	2	1	1	1				1	2	2	4	1	2		1		1	1		
OTHER TRANS. (800-807,826-848)		1						1														
POISONING (850-869)							1										1					
FALLS (880-888)									1				1		1	1	4	1	4	5		
FIRES (890-899)																	1	1	1			
DROWNING & SUBMERSIONS (910)	1		1	1	1						1				2							
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)	1		1	1	2	1					2		4	1	2	1	2	3	3	1		
SUICIDE (950-959)	3	3	4		3		1	1	1		2	2	4	1	1					2		
HOMICIDE & LEGAL INTERVENTION (960-978)	2		1	1	2																	
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	2		2																			

TABLE 35C

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
HAWAII COUNTY 1988

CAUSES OF DEATH (UNKNOWN SEX IN MALE CATEG.)	ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	471	322	9	10	2	3	4		2		4	2	3	1	5	4	8	3	14	1	16	5
TUBERCULOSIS, ALL FORMS (010-018,137)	2																					
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	11	7															1		2		1	1
MALIGNANT NEOPLASM (140-208)	112	74					1				1					1					2	
DIGEST. ORGANS (150-159)	41	24																			2	
RESPIRATORY SYSTEM (160-163)	38	18																				
BREAST (174-175)		7																				
GENITAL ORGANS (179-187)	9	5																				
URINARY ORGANS (188-189)	3	2																				
LEUKEMIA (204-208)	3	3					1									1						
OTHER (140-208)	18	15									1											
DIABETES MELLITUS (250)	4	12																				
DISEASE OF CIRCULATORY SYSTEM (390-459)	172	144		1											1		2		1	1	1	
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	128	102		1											1		1		1	1	1	
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)	2	4													1							
HYPERTENSIVE HEART (402,404)	1	2																				
ISCHEMIC HEART (410-414)	88	57															1					
OTHER HEART DISEASE (415-417,420-429)	37	39		1															1	1	1	
HYPERTENSION (401,403)	1																					
CEREBROVASCULAR DISEASE (430-438)	29	30															1					
ARTERIOSCLEROSIS (440)	6	4																				
OTHER CIRCULATORY (441-459)	8	8																				
INFLUENZA/PNEUMONIA (480-487)	18	4																				
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	1	7																				1
PEPTIC ULCER (531-533)	3	2																				
CIRRHOSIS OF LIVER (571)	6	3																			1	
NEPHRITIS AND NEPHROSIS (580-589)	5	2																				
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)	4	2	3	1																		
PERINATAL CONDITIONS (760-779)	5	5	5	5																		
SYMPTOMS & ILL-DEFINED COND (780-799)	6	4	1	3			1												1			
ALL OTHER DISEASES (BLANKS,000-799)	53	31										1							1		1	
ACCIDENTAL DEATHS (800-949)	44	15			2	3	2		2		3	1	2	1	4	1	4		4		5	1
MOTOR VEHICLE (810-825)	24	9				3	1		2		2	1	2	1	4	1	4		2		3	
OTHER TRANS. (800-807,826-848)	1																					
POISONING (850-869)	1																		1			
FALLS (880-888)	5	3																				
FIRES (890-899)		1																				
DROWNING & SUBMERSIONS (910)	8	1			2		1												1		2	
FIREARM MISSILES (922)	1										1											
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)	4	1																				1
SUICIDE (950-959)	15	2											1			1			3		1	
HOMICIDE & LEGAL INTERVENTION (960-978)	5	6														1	1	2	1		1	1
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	5	2																1	1		3	1

TABLE 35C (CONT'D)

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
HAWAII COUNTY 1988

UNKNOWN SEX IN MALE CATEG.	40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UN-KNOWN	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	17	5	21	13	8	12	26	24	46	24	45	34	47	40	68	27	54	41	72	73		
TUBERCULOSIS, ALL FORMS (010-018,137)															2							
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	2					1	1	2	1						1	1	1		1	2		
MALIGNANT NEOPLASM (140-208)	2	1	6	6	3	8	13	6	17	8	16	10	8	16	18	6	14	8	11	4		
DIGEST. ORGANS (150-159)	1			2	2	1	2	2	9	2	7	2	3	5	5	4	6	4	4	2		
RESPIRATORY SYSTEM (160-163)			4		1	2	8	1	4	4	5	3	3	4	7	1	5	2	1	1		
BREAST (174-175)		1		1		3				1				1								
GENITAL ORGANS (179-187)	1			1				1			1	2	1		2	1			4			
URINARY ORGANS (188-189)								1						1	2				1			
LEUKEMIA (204-208)			1	1		1									1							
OTHER (140-208)			1	1		1	3	1	4	1	3	3	1	5	1		3	2	1	1		
DIABETES MELLITUS (250)	1							1			1	4		2	2	1		1		3		
DISEASE OF CIRCULATORY SYSTEM (390-459)	2	3	8	3	3	2	4	9	15	9	20	14	28	13	29	14	24	26	34	49		
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	2	1	8	2	2	1	4	7	13	6	13	9	24	10	17	7	17	21	24	36		
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)			1			1						2				1						
HYPERTENSIVE HEART (402,404)								1							1	1						
ISCHEMIC HEART (410-414)	1		5	1	2		2		12	4	8	2	19	9	9	4	13	12	16	25		
OTHER HEART DISEASE (415-417,420-429)	1	1	2	1			2	6	1	2	5	5	5	1	7	1	4	9	8	11		
HYPERTENSION (401,403)																			1			
CEREBROVASCULAR DISEASE (430-438)		2		1	1	1			1	2	2	2	2	2	10	7	6	5	6	8		
ARTERIOSCLEROSIS (440)									1		1		1	1					3	3		
OTHER CIRCULATORY (441-459)								2		1	4	3	1		2		1			2		
INFLUENZA/PNEUMONIA (480-487)	1										2				2	1	4	2	9	1		
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)								1				2	1	2						1		
PEPTIC ULCER (531-533)							1							1	1	1	1					
CIRRHOSIS OF LIVER (571)	1							1	3	1	1			1								
NEPHRITIS AND NEPHROSIS (580-589)										1		1	2		2				1			
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)							1					1										
PERINATAL CONDITIONS (760-779)																						
SYMPTOMS & ILL-DEFINED COND (780-799)													1				1		1	1		
ALL OTHER DISEASES (BLANKS,000-799)	1	1	2	1	1	1	5	1	7	3	1	2	6	4	10	3	7	3	11	11		
ACCIDENTAL DEATHS (800-949)	5		2	1			1	3	2	1	1		1	1			1	1	3	1		
MOTOR VEHICLE (810-825)	3							1		1				1					1			
OTHER TRANS. (800-807,826-848)	1																					
POISONING (850-869)																						
FALLS (880-888)			1					1			1		1					1	2	1		
FIRES (890-899)								1														
DROWNING & SUBMERSIONS (910)			1	1					1													
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)	1						1		1								1					
SUICIDE (950-959)			3	1	1				1		3				1				1			
HOMICIDE & LEGAL INTERVENTION (960-978)	2			1						1												
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)																	1					

TABLE 35D

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
KAUAI COUNTY 1988

CAUSES OF DEATH (UNKNOWN SEX IN MALE CATEG.)	ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	211	128	2	1		1			1		1		2		2	1	3	1	5	4	5	3
TUBERCULOSIS, ALL FORMS (010-018,137)	1																					
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	4	1																	1		1	
MALIGNANT NEOPLASM (140-208)	49	24							1										1	1	1	1
DIGEST. ORGANS (150-159)	20	10																				
RESPIRATORY SYSTEM (160-163)	14	3																			1	
BREAST (174-175)		2																				
GENITAL ORGANS (179-187)	3	1																				
URINARY ORGANS (188-189)	1																					
LEUKEMIA (204-208)	3	2							1													1
OTHER (140-208)	8	6																	1	1		
DIABETES MELLITUS (250)	4	2																				
DISEASE OF CIRCULATORY SYSTEM (390-459)	78	56															1					1
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	62	46																				1
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)																						
HYPERTENSIVE HEART (402,404)	2	5																				
ISCHEMIC HEART (410-414)	41	19																				
OTHER HEART DISEASE (415-417,420-429)	19	22																				1
HYPERTENSION (401,403)																						
CEREBROVASCULAR DISEASE (430-438)	10	7																				
ARTERIOSCLEROSIS (440)	1	2																				
OTHER CIRCULATORY (441-459)	5	1															1					
INFLUENZA/PNEUMONIA (480-487)	9	4																				
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	1	2																				
PEPTIC ULCER (531-533)	2																					
CIRRHOSIS OF LIVER (571)	4	1																				
NEPHRITIS AND NEPHROSIS (580-589)	1	3																1				
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)	1	1	1																			
PERINATAL CONDITIONS (760-779)	1	1	1	1																		
SYMPTOMS & ILL-DEFINED COND (780-799)	1																					
ALL OTHER DISEASES (BLANKS,000-799)	34	26																			2	
ACCIDENTAL DEATHS (800-949)	14	5				1							2		2	1	1		1	2	1	
MOTOR VEHICLE (810-825)	7	4				1							1		1	1	1		1	2	1	
OTHER TRANS. (800-807,826-848)																						
POISONING (850-869)																						
FALLS (880-888)	3												1									
FIRES (890-899)																						
DROWNING & SUBMERSIONS (910)	1																					
FIREARM MISSILES (922)	1														1							
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)	2	1																				
SUICIDE (950-959)	3										1						1		1			
HOMICIDE & LEGAL INTERVENTION (960-978)	2	1																	1	1		
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	2	1																				1

TABLE 35D (CONT'D)

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
KAUAI COUNTY 1988

UNKNOWN SEX IN MALE CATEG.	40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UN-KNOWN	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	3	2	13	2	5	4	11	5	16	9	21	13	23	16	37	13	27	17	34	36		
TUBERCULOSIS, ALL FORMS (010-018,137)			1																			
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)					1	1											1					
MALIGNANT NEOPLASM (140-209)		2	3	1	1	2	5	2	6	2	6	3	6	2	8	3	7	1	4	4		
DIGEST. ORGANS (150-159)			2	1			2	1	2		3	3	2	1	5	1	2		2	3		
RESPIRATORY SYSTEM (160-163)		1	1		1	1			2		2				3		4	1				
BREAST (174-175)						1														1		
GENITAL ORGANS (179-187)										1			1				1		1			
URINARY ORGANS (188-189)									1													
LEUKEMIA (204-208)		1					1						1									
OTHER (140-208)							2	1	1	1	1		2	1		2			1			
DIABETES MELLITUS (250)	1									2	1		1				1					
DISEASE OF CIRCULATORY SYSTEM (390-459)			5		3		3	1	8	2	6	5	11	11	20	6	11	8	10	22		
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)			4		3		3	1	5	2	4	5	9	9	19	5	7	6	8	17		
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)																						
HYPERTENSIVE HEART (402,404)											1					2	1	1		2		
ISCHEMIC HEART (410-414)			3		1		2	1	3	2	3	1	7	2	13	1	6	4	3	8		
OTHER HEART DISEASE (415-417,420-429)			1		2		1		2			4	2	7	6	2		1	5	7		
HYPERTENSION (401,403)																						
CEREBROVASCULAR DISEASE (430-438)			1						2		2		2	1	1	1	2	1		4		
ARTERIOSCLEROSIS (440)																		1	1	1		
OTHER CIRCULATORY (441-459)									1					1			2		1			
INFLUENZA/PNEUMONIA (480-487)										1							1	2	8	1		
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)										1								1	1			
PEPTIC ULCER (531-533)																	1		-1			
CIRRHOSIS OF LIVER (571)			2								2	1										
NEPHRITIS AND NEPHROSIS (580-589)															1	1				1		
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)												1										
PERINATAL CONDITIONS (760-779)																						
SYMPTOMS & ILL-DEFINED COND (780-799)	1																					
ALL OTHER DISEASES (BLANKS,000-799)				1			2	2	1	1	5	3	5	3	7	3	4	5	8	8		
ACCIDENTAL DEATHS (800-949)						1	1		1		1				1		1		2			
MOTOR VEHICLE (810-825)																	1		1			
OTHER TRANS. (800-807,826-848)																						
POISONING (850-869)																						
FALLS (880-888)											1				1							
FIRES (890-899)																						
DROWNING & SUBMERSIONS (910)									1													
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)						1	1												1			
SUICIDE (950-959)																						
HOMICIDE & LEGAL INTERVENTION (960-978)			1																			
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	1		1																			

TABLE 35E

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
MAUI COUNTY 1988

CAUSES OF DEATH	ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
UNKNOWN SEX IN MALE CATEG.	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	322	210	6	2	1			1		1	2	3	2	1	3	1	7	1	2		8	7
TUBERCULOSIS, ALL FORMS (010-018,137)	2	3											1									
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	9	4															1		1		1	
MALIGNANT NEOPLASM (140-208)	81	49												1							2	1
DIGEST. ORGANS (150-159)	23	15																			1	
RESPIRATORY SYSTEM (160-163)	28	8																				
BREAST (174-175)		10																				1
GENITAL ORGANS (179-187)	12	4																				
URINARY ORGANS (188-189)	3	3																				
LEUKEMIA (204-208)	2	1												1								
OTHER (140-208)	13	8																			1	
DIABETES MELLITUS (250)	5	6																				
DISEASE OF CIRCULATORY SYSTEM (390-459)	132	98																			1	2
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	106	80																				2
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)		1																				1
HYPERTENSIVE HEART (402,404)	1	5																				
ISCHEMIC HEART (410-414)	54	34																				
OTHER HEART DISEASE (415-417,420-429)	51	40																				1
HYPERTENSION (401,403)	1	2																				
CEREBROVASCULAR DISEASE (430-438)	19	14																			1	
ARTERIOSCLEROSIS (440)	1	2																				
OTHER CIRCULATORY (441-459)	5																					
INFLUENZA/PNEUMONIA (480-487)	13	6								1												1
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)	2	2																				
PEPTIC ULCER (531-533)																						
CIRRHOSIS OF LIVER (571)	4	1																				
NEPHRITIS AND NEPHROSIS (580-589)	2	2																				
COMPLICATIONS OF PREG, CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)	4	2	3	1	1			1														
PERINATAL CONDITIONS (760-779)	3	1	3	1																		
SYMPTOMS & ILL-DEFINED COND (780-799)	2	1																				
ALL OTHER DISEASES (BLANKS,000-799)	34	24																1				1
ACCIDENTAL DEATHS (800-949)	20	6										3	1		2	1	6				3	1
MOTOR VEHICLE (810-825)	10	5										3	1		2	1	2				2	1
OTHER TRANS. (800-807,826-848)	1																1					
POISONING (850-869)	3																1					
FALLS (880-888)	1																					
FIRES (890-899)																						
DROWNING & SUBMERSIONS (910)	4																2				1	
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)	[redacted]	1																				
SUICIDE (950-959)	[redacted]	3									2				1				1		1	
HOMICIDE & LEGAL INTERVENTION (960-978)		1																				
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)	2	1																				1

TABLE 35E (CONT'D)

RESIDENT DEATHS BY AGE GROUP, BY SEX AND BY SELECTED CAUSES OF DEATH
MAUI COUNTY 1988

UNKNOWN SEX IN MALE CATEG.	40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UN-KNOWN	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	11	2	9	9	17	5	18	10	26	12	34	26	35	18	39	21	45	24	57	66		
TUBERCULOSIS, ALL FORMS (010-018,137)														1	1	1				1		
SYPHILIS AND ITS SEQUELAE (090-097)																						
OTHER INFECTIVE & PARASITIC DISEASES (000-139)	1								2		1				1		1	1		3		
MALIGNANT NEOPLASM (140-208)		1	4	3	9	3	7	5	9	4	11	10	10	5	14	6	5	4	10	6		
DIGEST. ORGANS (150-159)					4	1	2		2		5	4	3	2	2	3	2	2	2	3		
RESPIRATORY SYSTEM (160-163)		1	1				3	1	7	3	4	2	5		5				3	1		
BREAST (174-175)				2		2		2								1		1		1		
GENITAL ORGANS (179-187)					2						2	1	1	2	3	1	1		3			
URINARY ORGANS (188-189)				1						1					2				1	1		
LEUKEMIA (204-208)			1														1					
OTHER (140-208)			2		3		2	2				3	1	1	2	1	1	1	1			
DIABETES MELLITUS (250)										1		2	1		2		1	1	1	2		
DISEASE OF CIRCULATORY SYSTEM (390-459)	4	1	2	2	7	2	8	3	10	6	19	10	14	8	13	12	21	15	33	37		
DISEASES OF HEART (390-398,402,404 410-414,415-417,420-429)	4	1	2	2	5	2	8	3	9	3	16	8	12	5	9	10	15	13	26	31		
RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE (390-398)																						
HYPERTENSIVE HEART (402,404)																1		2	1	2		
ISCHEMIC HEART (410-414)			2		3	1	4	2	3	2	10	3	7	2	7	8	6	6	12	10		
OTHER HEART DISEASE (415-417,420-429)	4	1		2	2	1	4	1	6	1	6	5	5	3	2	1	9	5	13	19		
HYPERTENSION (401,403)															1					2		
CEREBROVASCULAR DISEASE (430-438)					1				1	3	2	2	2	3	1	2	5	2	6	2		
ARTERIOSCLEROSIS (440)																			1	2		
OTHER CIRCULATORY (441-459)					1						1				2		1					
INFLUENZA/PNEUMONIA (480-487)													3		2		6	1	2	3		
BRONCHITIS/EMPHYSEMA/ASTHMA (490-493)				1					1										1	1		
PEPTIC ULCER (531-533)																						
CIRRHOSIS OF LIVER (571)			1	1							1		1		1							
NEPHRITIS AND NEPHROSIS (580-589)											1						1	2				
COMPLICATIONS OF PREG. CHILDBIRTH & PUERPERIUM (630-676)																						
CONGENITAL ANOMALIES (740-759)																						
PERINATAL CONDITIONS (760-779)																						
SYMPTOMS & ILL-DEFINED COND (780-799)	1														1					1		
ALL OTHER DISEASES (BLANKS,000-799)	4						1	1	1	1	1	4	5	4	3	2	9		10	10		
ACCIDENTAL DEATHS (800-949)	1		1		1		1		1				1		1		1			1		
MOTOR VEHICLE (810-825)			1		1												1					
OTHER TRANS. (800-807,826-848)																						
POISONING (850-869)									1						1							
FALLS (880-888)													1									
FIRES (890-899)																						
DROWNING & SUBMERSIONS (910)	1																					
FIREARM MISSILES (922)																						
ADVERSE EFFECTS (930-949)																						
OTHER ACCIDENTS (800-949)							1													1		
SUICIDE (950-959)			1	2			1	1														
HOMICIDE & LEGAL INTERVENTION (960-978)																				1		
ALL OTHER EXTERNAL CAUSES (800-999,XXXX)									2													

TABLE 36

TOTAL RECORDED DEATHS FROM MALIGNANT NEOPLASM BY MAJOR AND SPECIFIED SITES, SEX, AND AGE
STATE OF HAWAII 1988

CAUSES OF DEATH (UNKNOWN SEX IN MALE CATEG.)		ALL AGES		UNDER 1 YR.		1-4 YRS.		5-9 YRS.		10-14 YRS.		15-17 YRS.		18-19 YRS.		20-24 YRS.		25-29 YRS.		30-34 YRS.		35-39 YRS.	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
BUCCAL CAVITY AND PHARYNX	140-149	22	6																				
LIP	140																						
TONGUE	141	5	2																				
SALIVARY GLAND	142	1																					
GUM	143																						
FLOOR OF MOUTH	144																						
OTHER & UNSPEC PARTS OF MOUTH	145	1																					
OROPHARYNX	146	5	1																				
NASOPHARYNX	147	2	2																				
HYPOPHARYNX	148	5																					
UNSPECIF BUCCAL CAVITY AND PHARYNX	149	1	1																				
DIGESTIVE ORGANS & PERITONEUM	150-159	332	208															1	2			6	2
ESOPHAGUS	150	32	10																				
STOMACH	151	76	49																1				1
SMALL INTESTINE & DUODENUM	152	2	2															1					
LARGE INTESTINE	153	92	61																			3	
RECTUM & RECTOSIGMOID JUNCTION	154	28	12																				1
LIVER AND INTRAHEPATIC BILE DUCTS	155	38	12																			2	
GALL BLADDER & BILE DUCTS	156	11	14																				
PANCREAS	157	51	44																1			1	
PERITONEUM & RETROPERITONEAL TISS	158		2																				
UNSPEC DIGESTIVE ORGANS	159	2	2																				
RESPIRATORY SYSTEM	160-165	281	115																			1	
NOSE,NASAL CAV, MIDDLE EAR & ACCES	160	2	1																				
LARYNX	161	10	1																				
TRACHEA, BRONCHUS & LUNG	162	268	112																			1	
OTHER AND UNSPECIFIED ORGANS	163-165	1	1																				
BONE, CONN TISSUE, SKIN BREAST	170-175	70	104						1		1	1					1				1	2			4
BONE	170	2	5						1		1	1												
CONNECTIVE & OTHER SOFT TISSUE	171	2	1																				
MELANOMA OF SKIN	172	11	3														1				1				1
NEOPLASM OF SKIN	173	5	2																				
BREAST	174-175		93																		2				3
GENITOURINARY ORGANS	179-189	119	91																			3			1
CERVIC UTERI	180		14																				
PLACENTA	181																						
OTHER MALIG NEOPLASM OF UTERUS	179,182		13																				
OVARY, FALLOP TUBE & BROAD LIGAM	183		46																				1
OTHER & UNSPEC FEMALE GENITAL ORG	184		2																				
PROSTATE	185	81																					
TESTIS	186	3																				1	
OTHER & UNSPEC MALE GENITAL ORGAN	187																						
BLADDER	188	15	7																				
OTHER & UNSPEC URINARY ORGANS	189	20	9																			2	
OTHER AND UNSPECIFIED SITES	190-199	69	61							1											3	1	2
EYE	190																						
BRAIN	191	9	16							1											2		1
OTHER PARTS OF NERVOUS SYSTEM	192																						
THYROID GLAND	193	2	4																				1
OTHER ENDOCRINE GLANDS	194	1																					
ILL-DEFINED SITES	195																						
SECONDARY & UNSPECIFIED MALIGNANT NEOPLASM OF LYMPH NODES	196	6	3																				
SECONDARY MALIGNANT NEOPLASM OF RESPIRATORY & DIGESTIVE SYSTEMS	197																						
OTHER SECONDARY MALIG NEOPLASM	198																						
WITHOUT SPECIFICATION OF SITE	199	51	38																		1	1	
LYMPHATIC & HEMATOPOIETIC TISS	200-208	83	54			1		1	2	1					2		1	2			2	1	6	1
LYMPHOSARCOMA & RETIC-CELL SARCO	200	10	4			1																1	2	
HODGKINS DISEASE	201	1	1															1					
OTHER NEOPLASMS OF LYMPHOID TISS	202	26	26						1						1			1			2		1	
MULTIPLE MYELOMA	203	14	6																				
LYMPHATIC LEUKEMIA	204	6	5						1						1								
MYELOID LEUKEMIA	205	14	9					1									1					3	1
MONOCYTIC LEUKEMIA	206	2																					
OTHER AND UNSPECIFIED LEUKEMIA	207-208	10	3							1													
TOTAL MALIGNANT NEOPLASMS	140-208	926	639			1		1	3	2	1	1			2	1	1	3	2	6	3	17	10

TABLE 16 (CONT'D)

TOTAL RECORDED DEATHS FROM MALIGNANT NEOPLASM BY MAJOR AND SELECTED SITES, SEX, AND AGE
STATE OF HAWAII 1988

UNKNOWN SEX IN MALE CATEG.		40-44 YRS.		45-49 YRS.		50-54 YRS.		55-59 YRS.		60-64 YRS.		65-69 YRS.		70-74 YRS.		75-79 YRS.		80-84 YRS.		OVER 84		UNKNOWN	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
BUCCAL CAVITY AND PHARYNX	140-149			1		2		5	1	3	1	3	2	3	2	2		3					
LIP	140																						
TONGUE	141							2	1			1		2	1								
SALIVARY GLAND	142			1																			
GUM	143																						
FLOOR OF MOUTH	144																						
OTHER & UNSPEC PARTS OF MOUTH	145							1															
OROPHARYNX	146									1			1	1		2		1					
NASOPHARYNX	147					1					1		1					1					
HYPOPHARYNX	148					1		2		1		1											
UNSPECIF BUCCAL CAVITY AND PHARYNX	149									1		1		1				1					
DIGESTIVE ORGANS & PERITONEUM	150-159	4	3	9	8	17	10	22	15	53	18	63	29	52	34	44	28	39	24	22	37		
ESOPHAGUS	150					1		6		5	1	7	3	5	1	3	1	5	1		1		
STOMACH	151	2	1	1	2	4	1	4	4	12	3	10	8	17	6	10	7	11	5	5	10		
SMALL INTESTINE & DUODENUM	152									1									1		1		
LARGE INTESTINE	153		2	2	1	4	5	8	4	13	6	17	4	14	10	16	6	9	10	6	13		
RECTUM & RECTOSIGMOID JUNCTION	154			1		2		1	4	6		4	2	4	1	3	2	3	1	4	1		
LIVER AND INTRAHEPATIC BILE DUCTS	155	1		3		1		3	1	5	3	10	2	6	3	3	1	1		1	2		
GALL BLADDER & BILE DUCTS	156			1					1	2	1	1	5	2	1	1	3	1	1	3	2		
PANCREAS	157	1		1	3	3	4		1	9	2	14	4	3	11	8	8	8	4	3	6		
PERITONEUM & RETROPERITONEAL TISS	158												1								1		
UNSPEC DIGESTIVE ORGANS	159													1	1			1	1				
RESPIRATORY SYSTEM	160-165	6	3	7	4	13	9	33	13	38	20	54	18	42	20	54	12	23	6	10	10		
NOSE,NASAL CAV, MIDDLE EAR & ACCES	160										1	1				1							
LARYNX	161			1		1		1	1	1		2				1		2		1			
TRACHEA, BRONCHUS & LUNG	162	6	3	6	4	12	8	32	12	37	19	51	18	42	20	51	12	21	6	9	10		
OTHER AND UNSPECIFIED ORGANS	163-165						1									1							
BONE, CONN TISSUE, SKIN BREAST	170-175	1	4	1	9	1	12	2	11		18	4	8	3	14	3	11		5	2	4		
BONE	170		1	1					1						1								
CONNECTIVE & OTHER SOFT TISSUE	171						1					1		1									
MELANOMA OF SKIN	172					1		2	1			3				3			1				
NEOPLASM OF SKIN	173	1												2	1		1			2			
BREAST	174-175		3		9		11		9		18		8		12		10		4		4		
GENITOURINARY ORGANS	179-189	1	1	1	7	4	2	3	10	5	11	10	20	23	13	29	10	20	8	20	8		
CERVIC UTERI	180				4				1		1		3				1		3		1		
PLACENTA	181																						
OTHER MALIG NEOPLASM OF UTERUS	179,182				1				3		1		2		1		3		1		1		
OVARY, FALLOP TUBE & BROAD LIGAM	183		1		1		2		3		7		14		9		3		2		3		
OTHER & UNSPEC FEMALE GENITAL ORG	184																1		1				
PROSTATE	185					2		3		3		8		15		17		16		17			
TESTIS	186	1												1									
OTHER & UNSPEC MALE GENITAL ORGAN	187																						
BLADDER	188					2			1			1	1	3	2	5	1	2	1	2	1		
OTHER & UNSPEC URINARY ORGANS	189			1	1				2	2	2	1		4	1	7	1	2		1	2		
OTHER AND UNSPECIFIED SITES	190-199	1	1	4	1	2	4	6	2	9	4	15	11	4	11	6	6	8	13	9	6		
EYE	190																						
BRAIN	191						2	1	1	2	1	1	3		4	2	1		3				
OTHER PARTS OF NERVOUS SYSTEM	192																						
THYROID GLAND	193											1			2			1	1				
OTHER ENDOCRINE GLANDS	194																			1			
ILL-DEFINED SITES	195																						
SECONDARY & UNSPECIFIED MALIGNANT NEOPLASM OF LYMPH NODES	196			1				1				2		1		1	2		1				
SECONDARY MALIGNANT NEOPLASM OF RESPIRATORY & DIGESTIVE SYSTEMS	197																						
OTHER SECONDARY MALIG NEOPLASM	198																						
WITHOUT SPECIFICATION OF SITE	199	1	1	3	1	2	2	4	1	7	3	11	8	3	5	3	3	7	8	8	6		
LYMPHATIC & HEMATOPOIETIC TISS	200-208	1	3	5	5	1	4	7	4	9	3	8	7	10	9	16	7	8	3	5	3		
LYMPHOSARCOMA & RETIC-CELL SARCO	200			1	1							2	1	1	1			2		1			
HODGKINS DISEASE	201																1						
OTHER NEOPLASMS OF LYMPHOID TISS	202		2		1		1	4	1	3	2	3	5	4	3	4	3	2	3	2	3		
MULTIPLE MYELOMA	203	1		1		1		1	2	2	1	1		2	1	4	2	1					
LYMPHATIC LEUKEMIA	204							1		1		1	1	1	1		1	2					
MYELOID LEUKEMIA	205		1	2	1		3	1	1	2				1	1	2		1		1			
MONOCYTIC LEUKEMIA	206															1				1			
OTHER AND UNSPECIFIED LEUKEMIA	207-208			1	2					1		1		1	1	5							
TOTAL MALIGNANT NEOPLASMS	140-208	14	15	28	32	40	41	78	56	117	75	157	95	137	102	154	74	101	59	68	68		

TABLE 37

HAWAII RESIDENT DEATHS OCCURRING OUTSIDE THE STATE BY RACE, AGE, AND SEX*
1988

AGE	TOTAL		CAUCA-SIAN		JAPA-NESE		CHI-NESE		FILI-PINO		HAWAIIAN PT HAW'N		KOREAN		BLACK		OTHER PAC. IS.		OTHER & UNK	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL	49	33	30	21	7	3	6	1	3	4	1	2				2	2			
UNDER 1	2	1	1	1	1															
1 - 19	1	2	1	1		1														
20 - 24	2		1														1			
25 - 34		1		1																
35 - 44	2	2	2									1				1				
45 - 54	4	2	3	1				1									1			
55 - 64	9	6	6	5	1		1			1	1									
65 - 74	21	7	14	3	2	2	3		2	1						1				
75 - 84	8	7	2	6	3		2		1	1										
85 & OVER		5		3						1		1								

*DEATHS OCCURRING IN THE UNITED STATES

TABLE 38

TOTAL RECORDED DEATHS BY ISLAND OF OCCURRENCE, BY METHOD OF DISPOSITION AND AUTOPSY PERFORMED
STATE OF HAWAI 1988

ISLAND OF OCCURRENCE	METHOD OF DISPOSITION								AUTOPSY PERFORMED						PRE SUMPTIVE DEATHS
									PRIV. PHY.		MED.EX./COR.PHY.		OTHER		
	TOTAL	BURIAL	CRE-MATION	RE-MOVAL	ENTOMB-MENT	EDUC. PURPOSE	OTHER	UNK.	TOTAL	YES	TOTAL	YES	TOTAL	YES	
TOTAL	6315	2543	3145	591	29			7	5345	330	982	750	2	1	6
HAWAII	745	301	385	54	3			2	554	24	189	165			2
OAHU	4708	1876	2366	440	26				4116	282	590	390	2	1	
KALAWAO COUNTY	1			1					1						
KAUAI	342	151	158	30				3	280	14	60	56			2
NIIHAU															
LANAI	17	11		5				1	15		1	1			1
MAUI	479	190	235	53				1	361	9	117	113			1
MOLOKAI (EXCL OF KALAWAO)	23	14	1	8					18	1	5	5			
UNKNOWN															

TABLE 39

INFANT DEATHS BY PLACE OF OCCURRENCE REALLOCATED TO USUAL RESIDENCE BY RACE OF CHILD
STATE OF HAWAII, 1988

GEOGRAPHIC AREA		TOTAL BY PLACE OF OCCURRENCE		TOTAL BY PLACE OF RESIDENCE		PERINATAL MORTALITY		RACE OF CHILD												
		NO.	RATE*	NO.	RATE*	N	RATE*	CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKN
TOTAL RESIDENT	NUMBER	141		141				36	1	50	1	19	27			6	8	1		4	
STATE OF HAWAII	NUMBER	141		141				30	1	50	1	19	24			5	8	1		2	
	RATE*																				
COUNTY OF HAWAII		7		19				4		12		3									
CITY OF HILO		4		6						6											
BALANCE OF CTY		3		13				4		6		3									
COUNTY OF HONOLULU		131		101				24	1	35	1	11	15			5	8	1		2	
CITY OF HONOLULU		120		28				5		7		4	6			1	2	1		2	
BALANCE OF CTY		11		73				19	1	28	1	7	7			4	6				
COUNTY OF KAUAI																					
COUNTY OF KAUAI		3		9						1		2									
ISLAND OF KAUAI		3		9						1		2									
ISLAND OF NIIHAU																					
COUNTY OF MAUI		1		8				2		2		3	1								
ISLAND OF LANAI																					
ISLAND OF MAUI		1		8				2		2		3	1								
ISLAND OF MOLOKAI INCL. KALAWAO																					
NONRESIDENT				10				6					3			1				2	
UNKNOWN																					

(NUMBER OF INFANT DEATHS PER 1,000 LIVE BIRTHS

NUMBER OF INFANT DEATHS UNDER 1 WEEK OF AGE AND FETAL DEATHS OF 20 WEEKS OR MORE GESTATION COMBINED BY THE SUM OF TOTAL RESIDENT LIVE BIRTHS PLUS RESIDENT FETAL DEATHS OF 20 WEEKS OR MORE GESTATION PER 1,000

TABLE 40

RESIDENT INFANT DEATHS BY AGE AND RACE OF MOTHER
STATE OF HAWAII, 1988

AGE OF MOTHER		ALL RACES		RACE OF MOTHER														
		NO.	RATE*	CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKN
ALL AGES	NUMBER	131		6		3			1			1	1				119
	RATE*																
UNDER 15																	
15 - 17																	
18 - 19																	
20 - 24		6		4		1							1				
25 - 29		5		1		2			1			1					
30 - 34																	
35 - 39		1		1													
40 - 44																	
45 & OVER																	
UNKNOWN		119															119

* NUMBER OF INFANT DEATHS PER 1,000 RESIDENT LIVE BIRTHS

TABLE 41

RESIDENT INFANT DEATHS BY RACE OF MOTHER AND MONTH OF FIRST PRENATAL VISIT
STATE OF HAWAII, 1988

RACE OF MOTHER		NO.	RATE*	MONTH OF FIRST PRENATAL VISIT										
				1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	NONE	UNKNOWN
ALL RACES	NUMBER	151	6.9	1	1	4	2	2						119
	RATE*	6.9		0.4	0.4	1.8	1.1	2.1						
CAUCASIAN		6	1.1	1	2	2	1							
HAWAIIAN														
PART HAWAIIAN		3	0.5		1		1	1						
CHINESE														
FILIPINO														
JAPANESE		1	0.4					1						
PUERTO RICAN														
KOREAN														
SAMOAN		1	2.1			1								
BLACK		1	1.8			1								
PORTUGUESE														
VIETNAMESE														
OTHER RACES														
UNKNOWN		119												119

*NUMBER OF INFANT DEATHS PER 1,000 RESIDENT LIVE BIRTHS

TABLE 42

RESIDENT INFANT MORTALITY BY RACE OF CHILD AND AGE, LOW BIRTH WEIGHT INFANT DEATHS
STATE OF HAWAII, 1988

RACE OF CHILD	NUMBER OF INFANT DEATHS					INFANT DEATH RATE a/					LOW BIRTHWEIGHT INFANTS WHO DIED b/	
		AGE AT DEATH (DAYS)										
	TOTAL	UNDER 1 DAY	1-6	7-27	28 DAYS TO 11 MOS	TOTAL	UNDER 1 DAY	UNDER 1 WEEK	UNDER 28 DAYS	28 DAYS TO 11 MOS	NO.	RATE c/
ALL RACES	151	53	28	16	34	6.9	2.6	4.3	5.1	1.8	2	0.1
CAUCASIAN	30	13	8	1	8	6.9	3.0	4.8	5.1	1.8	--	--
HAWAIIAN	1		1			16.9	--	16.9	16.9		--	--
PART HAWAIIAN	50	22	8	7	13	8.5	3.4	5.1	6.3	2.2	2	0.3
CHINESE	1				1	1.3	--	--	--	1.3	--	--
FILIPINO	19	9	2	4	4	6.3	3.0	3.7	5.0	1.3	--	--
JAPANESE	14	4	4	2	4	5.8	1.7	3.3	4.2	1.7	--	--
PUERTO RICAN						--	--	--	--	--	--	--
KOREAN						--	--	--	--	--	--	--
SAMOAN	5	2	1	1	1	10.7	4.3	6.4	8.6	2.1	--	--
BLACK	9	3	2	1	2	8.8	3.3	5.5	6.6	2.2	--	--
PORTUGUESE	1		1			12.3	--	12.3	12.3	--	--	--
VIETNAMESE						0.0	--	--	--	--	--	--
OTHER RACES	2		1		1	3.8	--	1.9	1.9	1.9	--	--
UNKNOWN						--						

a/ NUMBER OF INFANT DEATHS PER 1,000 LIVE BIRTHS
b/ INFANTS OF LESS THAN 2500 GRAMS (5 LBS 8 OZ) ARE CONSIDERED LOW BIRTH WEIGHT
c/ NUMBER OF DEATHS PER 1,000 LOW BIRTH WEIGHT LIVE BIRTHS

FIGURE 2
INFANT DEATHS IN HAWAII 1900- 1988

TABLE 43

RESIDENT INFANT MORTALITY BY SELECTED CAUSES BY BIRTH WEIGHT, SEX AND AGE, NEONATAL DEATHS
STATE OF HAWAII, 1988

CAUSE OF DEATH a/	TOTAL			BIRTH WEIGHT			SEX			AGE AT DEATH				NEONATAL DEATH c/	
	NO.	RATE b/	PER CENT	2500 GMS UNDER	OVER 2500 GMS	UNK	MALE	FEMALE	UNK	UNDER 1 DAY	1-6 DAYS	7-27 DAYS	28 DAYS TO 11 MOS	NO.	RATE b/
ALL CAUSES	131	6.9	100.0	67	43	21	75	56		53	28	16	34	97	5.1
INTESTINAL INFECTIVE DISEASES (001-009)															
OTHER INFECTIVE DISEASES (010-139)	4	0.2	3.1		3	1	2	2				1	3	1	0.1
INFECTIONS OF NEWBORN (771)	4	0.2	3.1	4				4		3		1		4	0.2
MENINGITIS (320-322)															
PNEUMONIA (480-486,7700)	2	0.1	1.5	1	1		2						2		
CONGENITAL ANOMALIES OF CIRCULATORY SYST (745-747)	18	1.0	13.7	7	10	1	10	8		2	12	1	3	15	0.8
OTHER CONG ANOMAL NEC (740-759)	22	1.2	16.8	6	12	4	17	5		12	6	2	2	20	1.1
MATERNAL CONDITIONS UNRELATED TO PREGNANCY (760)	2	0.1	1.5	1		1		2		1	1			2	0.1
COMPLICATIONS OF PREGNANCY (761)	3	0.2	2.3	1	2			3		1	2			3	0.2
COMPLICATIONS OF PLACENTA CORD & MEMBRANE (762)	2	0.1	1.5			2		2		2				2	0.1
OTHER COMPLICATIONS OF LABOR AND DELIVERY (763)															
BIRTH INJURY (767)	2	0.1	1.5			2		2		1		1		2	0.1
HEMOLYTIC DISEASE OF NEWBORN (773)															
RESPIRATORY DISTRESS SYNDROME (769)	12	0.6	9.2	10		2	8	4		5	3	3	1	11	0.6
ASPHYXIA & HYPOXIA (768)															
IMMATURITY (765)	17	0.9	13.0	15		2	14	3		16	1			17	0.9
OTHER PERINATAL NEC (760-779)	18	1.0	13.7	16		2	9	9		8	3	4	3	15	0.8
SUDDEN INFANT DEATH SYNDROME (7980)	16	0.8	12.2	4	9	3	7	9				1	15	1	0.1
ACCIDENTS (800-949)	2	0.1	1.5	0	2		2					1	1	1	0.1
OTHER EXTERNAL CONDITIONS (950-959)		0.1	.8				1					1		1	0.1
ALL OTHER CONDITIONS-RESIDUAL	7	0.3	4.6	2	4	1	3	3		2			4	2	0.1

a/ 9TH ICD
b/ NUMBER OF INFANT DEATHS PER 1,000 LIVE BIRTHS
c/ DEATHS UNDER 28 DAYS OLD
NEC=NOT ELSEWHERE CLASSIFIED

TABLE 44

STANDARD FETAL DEATHS BY PLACE OF OCCURRENCE REALLOCATED TO USUAL RESIDENCE OF MOTHER AND GESTATION PERIOD
STATE OF HAWAII, 1988

GEOGRAPHIC AREA		TOTAL BY PLACE OF OCCURRENCE		TOTAL BY PLACE OF RESIDENCE			GESTATION PERIOD IN WEEKS										
		NO.	RATIO a/	NO.	RATIO a/	RATE b/	UNDER 12	12	13	14	15	16-19	20-27	28-35	36-39	40 & OVER	UNKN
TOTAL RECORDED		1,482	77.8	1,482	77.8	72.2	983	120	55	30	19	75	75	32	27	9	57
STATE OF HAWAII	NUMBER	1,482	77.8	1,411	74.5	69.3	932	114	53	28	19	69	73	31	27	9	56
	PERCENT			100.0			66.1	8.1	3.8	2.0	1.3	4.9	5.2	2.2	1.9	0.6	4.0
COUNTY OF HAWAII		149	75.3	154	77.8	72.2	110	12	2	2	3	10	10	3	1		1
CITY OF HILO		146	137.1	72	112.0	100.7	55	5	1	1	1	5	3				1
BALANCE OF COUNTY		3	2.2	82	61.3	57.8	55	7	1	1	2	5	7	3	1		
COUNTY OF HONOLULU		1,008	69.9	955	66.2	62.1	607	70	37	21	15	56	44	25	21	7	52
CITY OF HONOLULU		878	161.9	369	68.0	63.7	242	25	15	8	5	18	13	11	11	2	19
BALANCE OF COUNTY		130	14.4	586	65.1	61.1	365	45	22	13	10	38	31	14	10	5	33
COUNTY OF KALAWAO																	
COUNTY OF KAUAI		131	150.1	123	140.9	123.5	79	15	8	3		2	11		3	1	1
ISLAND OF KAUAI		131	150.4	123	141.2	123.7	79	15	8	3		2	11		3	1	1
ISLAND OF NIIHAU																	
COUNTY OF MAUI		194	117.3	179	108.2	97.7	136	17	6	2	1	1	8	3	2	1	2
ISLAND OF LANAI				1	33.3	32.3	1										
ISLAND OF MAUI		193	128.2	170	113.0	101.5	133	17	5	2	1		7	2		1	2
ISLAND OF MOLOKAI		1	8.4	8	67.2	63.0	2		1			1	1	1	2		
NON-RESIDENT				69	600.0	375.0	50	6	2	2		5	2	1			1
UNKNOWN				2			1					1					

a/NUMBER OF FETAL DEATHS PER 1000 LIVE BIRTHS
b/NUMBER OF FETAL DEATHS PER 1,000 DELIVERIES (LIVE BIRTHS AND STANDARD FETAL DEATHS)

TABLE 45

STANDARD FETAL DEATHS BY PLACE OF OCCURRENCE REALLOCATED TO USUAL RESIDENCE OF MOTHER BY RACE
STATE OF HAWAII, 1988

GEOGRAPHIC AREA	TOTAL BY PLACE OF OCCURRENCE NO.	RATIO	TOTAL BY PLACE OF RESIDENCE NO.	RATIO	RATE	RACE OF FETUS CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGESE	VIETMESE	OTHER	UNKN
TOTAL RECORDED	1482		1482			524	29	229	48	193	236	2	20	14	38	15	3	28	103
STATE OF HAWAII NUMBER	1482		1411			467	29	228	47	191	233	2	20	14	38	14	3	26	99
STATE OF HAWAII RATIO*																			
STATE OF HAWAII RATE																			
COUNTY OF HAWAII	149		156			40	1	54	2	21	24		2	1		3		6	
CITY OF HILO	146		72			15	1	20		12	19		1			1		3	
BALANCE OF COUNTY	3		82			25		34	2	9	5		1	1		2		3	
COUNTY OF HONOLULU	1038		955			306	24	115	40	119	167		18	13	35	6	2	20	90
CITY OF HONOLULU	378		369			107	4	32	28	48	74		13	8	8		1	8	38
BALANCE OF COUNTY	660		586			199	20	83	12	71	93		5	5	27	6	1	12	52
COUNTY OF KALAWAO																			
COUNTY OF KAUAI	131		125			49	3	24	2	25	14	1			1	2	1		1
ISLAND OF KAUAI	131		125			49	3	24	2	25	14	1			1	2	1		1
ISLAND OF NIIHAU																			
COUNTY OF MAUI	194		179			72	1	35	3	26	28	1			2	3			3
ISLAND OF LANAI			1							1									
ISLAND OF MAUI	193		170			71	1	30	3	25	27	1			2	3			7
ISLAND OF MOLOKAI	1		8			1		5			1								1
NON-RESIDENT			69			55		1	1	2	5					1		2	4
UNKNOWN			5			2													

*NUMBER OF FETAL DEATHS PER 1,000 LIVE BIRTHS AND STANDARD FETAL DEATHS

TABLE 46

STANDARD FETAL DEATHS BY CAUSE AND GESTATION PERIOD
STATE OF HAWAII, 1988

CAUSE	CODE*	TOTAL NUMBER	TOTAL PERCENT	GESTATION PERIOD IN WEEKS UNDER 12	12	13	14	15	16-19	20-27	28-35	36-39	40 & OVER	UNKN
ALL CAUSES	ALL	1,482	100.0	983	120	55	30	19	75	75	32	27	9	57
SPONTANEOUS ABORTION	7614	541	36.5	404	51	25	8	6	20	2				25
ALL OTHER ABORTIONS	7796	332	22.4	231	39	16	15	8	14	1	2			6
CONGENITAL ANOMALIES	740-759	6	.4					1		1	2		2	
CHRONIC CIRCULATORY, RESPIRATORY, AND GENITOURINARY DISEASES IN THE MOTHER	7600,7601,7603	5	.3							4	1			
MATERNAL CONDITIONS UNRELATED TO PREGNANCY	7602,7604-7609	10	.7	3	1	1		1	2	1				1
COMPLICATIONS OF PREGNANCY AND CHILDBIRTH	7610-7617,7619	266	17.9	204	5	2	2		13	17	1			22
DIFFICULT LABOR WITH OR WITHOUT MENTION OF BIRTH INJURY	763													
COMPLICATIONS OF PLACENTA, CORD AND MEMBRANES	762	106	7.2	42	8	1	2	1	10	15	12	9	5	1
BIRTH INJURY WITHOUT MENTION OF CAUSE	767													
HEMOLYTIC DISEASE OF NEWBORN	773													
OTHER CONDITIONS OF FETUS	764-766,768-770	7	.5						1	5		1		
UNKNOWN	7799	194	13.1	96	16	9	3	2	15	25	13	11	2	2
ALL OTHER CAUSES	RESIDUAL	15	1.0	3		1				4	1	6		

*9TH ICD

TABLE 47

STANDARD FETAL DEATHS BY AGE OF MOTHER AND GESTATION PERIOD
STATE OF HAWAII, 1988

AGE OF MOTHER IN YEARS	TOTAL			GESTATION PERIOD IN WEEKS: NUMBER											GESTATION PERIOD IN WEEKS: PERCENT						
	NO.	RATIO*	PER-CENT	<12	12	13	14	15	16 TO 19	20 TO 27	28 TO 35	36 TO 39	40 & OVER	UNKN	UNDER 12	UNDER 20	UNDER 28	UNDER 36	36 TO 39	40 & OVER	UNKN
ALL AGES	1,482	78.3	100.0	983	120	55	30	19	75	75	32	27	9	57	66.3	86.5	91.6	93.7	1.8	.6	3.8
UNDER 15	3	125.0	.2	2						1					66.7	66.7	100.0	100.0			
15 - 17	33	64.2	2.2	17	2	2	1		3	5				3	51.5	75.8	90.9	90.9			9.1
18 - 19	72	58.1	4.9	44	3	1	2	3	8	5	3		2	1	61.1	84.7	91.7	95.8		2.8	1.4
20 - 24	266	70.8	17.9	173	15	9	6	2	19	16	7	7	1	13	65.0	83.5	89.5	92.1	2.6	.4	4.9
25 - 29	383	66.1	25.8	253	25	13	8	8	19	22	12	7	2	14	66.1	85.1	90.9	94.0	1.8	.5	3.7
30 - 34	356	84.7	24.0	232	36	14	7	3	13	20	7	10	1	13	65.2	85.7	91.3	93.3	2.8	.3	3.7
35 - 39	260	156.9	17.5	176	28	14	7	3	11	6	2	2	2	9	67.7	91.9	94.2	95.0	.8	.8	3.5
40 - 44	100	178.8	6.7	79	10	2	1		2		1	1	1	3	79.0	94.0	94.0	95.0	1.0	1.0	3.0
45 - 49	5	1250.0	.3	3	1									1	60.0	80.0	80.0	80.0			20.0
50 & OVER																					
UNKNOWN	4		.3	4											100.0	100.0	100.0	100.0			

*NUMBER OF FETAL DEATHS PER 1,000 LIVE BIRTHS

TABLE 48

STANDARD FETAL DEATHS BY RACE OF MOTHER AND AGE OF MOTHER
STATE OF HAWAII, 1988

ALL RACES		RACE OF MOTHER																
		NO.	PER CENT	CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERRCAN	KOREAN	SAMOAN	BLACK	PORTUGESE	VIETMESE	OTHER	UNKN
	NUMBER	1482	100.0	536	31	189	50	217	217	7	31	15	36	18	2	30	103
	PERCENT	100.0		36.2	2.1	12.8	3.4	14.6	14.6	.5	2.1	1.0	2.4	1.2	.1	2.0	7.0
UNDER 15		3	.2	2		1											
15 - 17		33	2.2	7	1	12		6	1					1			5
18 - 19		72	4.9	15	3	21		15	6				1	2		1	8
20 - 24		266	17.9	80	12	56	5	47	17			4	13	2		6	24
25 - 29		383	25.8	147	2	48	7	55	53	1	9	5	17	5		7	27
30 - 34		356	24.0	134	9	29	17	38	73	4	12	5	1	3	1	8	22
35 - 39		260	17.5	108	3	15	16	37	48	2	6	1	4	4	1	4	11
40 - 44		100	6.7	41	1	5	5	16	17		4			1		4	6
45 - 49		5	.3	1		1		2	1								
50 & OVER																	
UNKNOWN		4	.3	1		1		1	1								

TABLE 49

ELECTIVE ABORTIONS BY RACE OF MOTHER AND AGE OF MOTHER
STATE OF HAWAII, 1988

MOTHERS AGE IN YEARS		NO.	PERCENT	ABORTIONS PER 1000 LIVE BIRTHS	RACE OF MOTHER: CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	BLACK	SAMOAN	VIETNAMESE	PORTUGESE	OTHER RACES	UNKNOWN
	NUMBER	6,040			1674	206	769	233	978	871	21	263	124	97	32	30	156	586
	PERCENT		100.0		27.7	3.4	12.7	3.9	16.2	14.4	.3	4.4	2.1	1.6	.5	.5	2.6	9.7
UNDER 15		38	.6		6	1	5	2	9	3		1	1	1	1	1	1	6
15 - 17		514	8.5		99	21	71	18	103	96		13	11	4	2	3	10	63
18 - 19		774	12.8		178	24	139	25	124	132	3	19	16	19	1	2	15	77
20 - 24		1,840	30.5		487	73	263	51	315	232	6	45	57	37	9	10	51	204
25 - 29		1,412	23.4		432	55	163	61	217	189	10	69	24	13	4	8	39	128
30 - 34		842	13.9		270	22	78	33	119	114		67	15	13	6	4	35	66
35 - 39		485	8.0		154	8	42	37	68	77	2	43		10	8	1	2	33
40 - 44		121	2.0		43	2	8	5	20	25		5			1	1	2	9
45 - 49		9	.1		3			1	2	1		1					1	
50 & OVER		3			1				1	1								
UNKNOWN		2			1					1								

TABLE 50

ELECTIVE ABORTIONS BY AGE OF MOTHER AND LENGTH OF GESTATION PERIOD
STATE OF HAWAII, 1988

AGE OF MOTHER	TOTAL	GESTATION PERIOD IN WEEKS: UNDER 6	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21 & OVER	UNKN
ALL AGES	6,040	130	847	1,045	1,304	608	732	312	341	134	115	78	111	70	87	51	31	31	13
UNDER 15	38		5	6	8	4	4	1	1	3		1	1	1	1	1	1		
15 - 17	514	10	58	97	85	62	63	25	27	10	15	8	16	10	11	8	5	4	
18 - 19	774	7	99	136	134	72	106	40	55	20	17	12	17	13	20	15	7	4	
20 - 24	1,840	35	238	312	395	207	227	109	98	39	34	28	39	21	25	11	6	13	3
25 - 29	1,412	32	207	250	320	132	161	72	82	36	29	18	25	17	12	6	4	5	4
30 - 34	842	25	147	151	208	74	90	37	44	17	14	5	5	2	8	4	4	4	3
35 - 39	485	16	70	76	121	44	67	19	23	9	5	5	7	4	6	6	4	1	2
40 - 44	121	4	22	16	29	12	11	7	11		1		1	2	4				1
45 - 49	9			1	3	1	2	1				1							
50 & OVER	3	1			1		1												
UNKNOWN	2		1					1											

TABLE 51

ELECTIVE ABORTIONS BY LEGITIMACY AND RACE OF MOTHER
STATE OF HAWAII, 1988

LEGITIMACY STATUS	TOTAL	RACE OF MOTHER													
		CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	BLACK	SAMOAN	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKNOWN
TOTAL	6,040	1,674	206	769	233	978	871	21	263	124	97	32	30	156	586
LEGITIMATE	1,453	350	49	181	75	330	174	3	78	30	21	6	4	38	114
ILLEGITIMATE	4,552	1,321	156	586	158	644	692	18	183	93	76	26	26	118	455
UNKNOWN	35	3	1	2		4	5		2	1					17

TABLE 52

ELECTIVE ABORTIONS BY LEGITIMACY STATUS AND AGE OF MOTHER
STATE OF HAWAII, 1988

LEGITIMACY STATUS	TOTAL	AGE OF MOTHER IN YEARS										
		UNDER 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50 & OVER	UNKNOWN
TOTAL	6,040	38	514	774	1,840	1,412	842	485	121	9	3	2
LEGITIMATE	1,453		6	48	337	468	292	234	63	4		1
ILLEGITIMATE	4,552	37	505	722	1,489	937	547	248	58	5	3	1
UNKNOWN	35	1	3	4	14	7	3	3				

TABLE 53

ELECTIVE ABORTIONS BY TYPE OF PROCEDURE AND GESTATION PERIOD
STATE OF HAWAII, 1988

TYPE OF PROCEDURE	TOTAL	GESTATION PERIOD IN WEEKS														
		UNDER 6	6	7	8	9	10	11	12	13	14	15	16	17-19	20 & OVER	UNKN
TOTAL	6,040	130	847	1,045	1,304	608	732	312	341	134	115	78	111	208	62	13
SUCTION CURETTAGE	5,939	130	846	1,043	1,300	607	728	310	338	133	112	67	90	167	56	12
SHARP D & C	14		1	1	1	1	4	1		1		3	1			
AMNIOTIC FLUID EXCHANGE																
HYSTEROTOMY	1				1											
HYSTERECTOMY																
PROSTAGLANDIN	50								1			6	13	25	5	
OTHER	31				1				1		3	2	6	16	1	1
NOT STATED	5			1	1			1	1				1			
UNKNOWN																

TABLE 54

RESIDENT ABORTIONS BY COUNTY OF RESIDENCE AND COUNTY OF OCCURRENCE
STATE OF HAWAII, 1988

COUNTY OF RESIDENCE				COUNTY OF OCCURRENCE															
				COUNTY OF HAWAII				COUNTY OF HONOLULU				COUNTY OF KAUAI			COUNTY OF MAUI				
	NO.	ABORTIONS PER 1,000 LIVE BIRTHS	TOTAL	TOT	HILO CITY	BAL	TOT	HON CITY	BAL	KALAWAO CNTY	TOT	KAUAI ISL	NIIHAU ISL	TOT	MAUI ISL	LANAI ISL	MOLOKAI ISL	NON RES	UNK
TOTAL RECORDED NUMBER	6040	100.0	6040	253	232	21	5229	4232	997		162	162		396	396				
TOTAL RECORDED PERCENT	100.0		100.0	4.2	3.8	.3	86.6	70.1	16.5		2.7	2.7		6.6	6.6				
STATE OF HAWAII	5998	99.3	5998	253	232	21	5190	4195	995		160	160		395	395				
COUNTY OF HAWAII	299	5.0	299	250	230	20	49	49											
CITY OF HILO	141	2.3	141	125	123	2	16	16											
BALANCE OF COUNTY	158	2.6	158	125	107	18	33	33											
COUNTY OF HONOLULU	4971	82.3	4971	1		1	4968	4010	958					2	2				
CITY OF HONOLULU	2909	48.2	2909	1		1	2906	2551	355					2	2				
BALANCE OF COUNTY	2062	34.1	2062				2062	1459	603										
COUNTY OF KALAWAO																			
COUNTY OF KAUAI	241	4.0	241	1	1		80	51	29		160	160							
ISLAND OF KAUAI	241	4.0	241	1	1		80	51	29		160	160							
ISLAND OF NIIHAU																			
COUNTY OF MAUI	487	8.1	487	1	1		93	85	8					393	393				
ISLAND OF MAUI	463	7.7	463	1	1		71	64	7					391	391				
ISLAND OF LANAI	4	.1	4				3	3						1	1				
ISLAND OF MOLOKAI	20	.3	20				19	18	1					1	1				
NON-RESIDENT	37	.6	37				34	33	1		2	2		1	1				
UNKNOWN	5	.1	5				5	4	1										

TABLE 55
MARRIAGES BY COUNTY AND MONTH OF OCCURRENCE
STATE OF HAWAII, 1968

COUNTY OF MARRIAGE	TOTAL			NUMBER OF MARRIAGES RECORDED											
				MONTH											
	NUMBER OF MARRIAGES RECORDED	PERCENT	RATE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL	17281	100	15.7	1063	1340	1236	1411	1658	1506	1594	1593	1484	1413	1445	1536
UNKNOWN	1	0		-	1	-	-	-	-	-	-	-	-	-	-
HONOLULU	10162	59	12.1	671	777	743	801	907	890	1011	947	868	791	808	948
HAWAII	1396	8	11.9	91	108	111	105	124	105	137	121	100	121	141	132
MAUI	3025	18	32.6	188	251	212	253	328	255	237	257	277	253	272	242
KALAWAO	1	0	8.3	-	-	-	-	-	-	1	-	-	-	-	-
KAUAI	2696	16	54.7	113	203	170	252	299	258	208	268	239	248	224	214

*RATE PER 1,000 RESIDENTS

TABLE 55A
MARRIAGES BY GEOGRAPHIC AREA AND MONTH OF OCCURRENCE
STATE OF HAWAII, 1968

GEOGRAPHIC AREA	TOTAL			NUMBER OF MARRIAGES RECORDED											
				MONTH											
	NUMBER OF MARRIAGES RECORDED	PERCENT	RATE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL	17281	100	15.7	1063	1340	1236	1411	1658	1506	1594	1593	1484	1413	1445	1536
NOT RECORDED	1	0		-	1	-	-	-	-	-	-	-	-	-	-
HONOLULU CITY	7361	43	13.4	490	565	568	570	642	619	711	698	614	598	593	693
REST OF OAHU	2801	16	9.1	181	212	175	231	265	271	300	249	254	193	215	255
HILO CITY	376	2	9.2	20	32	31	23	33	34	48	39	26	28	36	26
REST OF BIG ISLAND	1020	6	14.3	71	76	80	82	91	71	89	82	74	93	105	106
ISL OF MAUI	2940	17	31.7	194	243	208	248	322	249	232	251	271	244	263	229
ISL OF LANAI	85	0	37.1	-	-	1	11	21	-	11	-	11	21	21	2
ISL OF MOLOKAI	79	0	31.0	4	8	3	6	4	6	5	6	5	7	7	11
ISL OF KAUAI	2696	16	54.7	113	203	170	252	299	258	208	268	239	248	223	214
ISL OF NIIHAU	1	0	8.3	-	-	-	-	-	-	-	-	-	-	1	-

*RATE PER 1,000 RESIDENTS

TABLE 56
MARRIAGES BY AGE OF GROOM AND AGE OF BRIDE
STATE OF HAWAII, 1968

AGE OF MARRIED COUPLE	TOTAL		NUMBER OF MARRIAGES RECORDED																	
			BRIDE'S AGE																	
	NUMBER OF MARRIAGES RECORDED	PERCENT	UNDER 15	15-16	17	18	19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	
TOTAL	17281	100	1	28	89	446	1146	5097	4387	3389	2352	1470	900	447	361	227	146	89	52	20
GROOM'S AGE																				
15-17	19	0	-	1	3	9	4	-	-	-	-	-	-	-	-	-	-	-	-	-
18-19	346	2	-	24	44	146	122	9	1	-	-	-	-	-	-	-	-	-	-	-
20-24	3097	18	1	2	37	285	807	1529	337	66	18	4	-	-	-	-	-	-	-	-
25-29	4387	25	-	-	3	11	223	1434	2031	597	184	54	10	1	-	-	-	-	-	-
30-34	3389	20	-	-	1	1	24	448	1353	1079	355	105	19	3	2	-	-	-	-	-
35-39	2352	14	-	-	1	-	6	160	597	758	576	196	47	9	1	1	-	-	-	-
40-44	1470	9	-	-	1	-	1	51	55	230	362	407	291	96	18	3	2	-	-	-
45-49	900	5	-	-	-	-	1	16	10	145	233	220	128	36	12	3	2	-	1	
50-54	447	3	-	-	-	-	-	7	1	26	44	73	106	113	51	21	4	-	2	-
55-59	361	2	-	-	-	-	-	4	1	4	2	5	5	7	4	8	2	1	-	-
60-64	227	1	-	-	-	-	-	-	1	-	1	2	2	2	3	3	2	1	1	
65-69	146	1	-	-	-	-	-	2	-	1	-	1	1	1	1	1	1	1	-	
70-74	89	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>75	52	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

MEDIAN AGE OF GROOMS = 31 MEDIAN AGE OF BRIDES = 28

TABLE 56A
MARRIAGES BY AGE OF RESIDENT GROOM AND AGE OF BRIDE
STATE OF HAWAII, 1988

AGES OF MARRIED COUPLE	TOTAL		NUMBER OF MARRIAGES RECORDED														
			BRIDE'S AGE														
	NUMBER OF MARRIAGES RECORDED	PERCENT	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
TOTAL	9427	100	1	122	742	2743	2632	1446	840	462	207	105	60	31	20	11	5
GROOM'S AGE																	
15-17	18	0	-1	6	9	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-
18-19	316	3	-1	43	153	102	16	3	-1	-1	-1	-1	-1	-1	-1	-1	-
20-24	2429	26	-1	61	446	1375	404	92	35	12	4	-1	-1	-1	-1	-1	-
25-29	2585	27	-1	10	105	882	1139	313	95	35	5	1	-1	-1	-1	-1	-
30-34	1649	17	-1	1	21	254	646	502	162	51	9	1	2	-1	-1	-1	-
35-39	1039	11	-1	1	5	83	272	311	252	89	21	5	1	1	-1	-1	-
40-44	578	6	-1	1	4	24	94	138	158	115	31	10	3	-1	-1	-1	-
45-49	335	4	-1	-1	2	12	41	58	82	78	43	9	7	2	1	-1	1
50-54	154	2	-1	-1	-1	3	10	18	25	31	40	19	6	1	-1	1	-
55-59	128	1	-1	-1	-1	3	6	4	14	27	25	29	13	6	3	-1	-
60-64	83	1	-1	-1	-1	-1	2	5	10	15	17	16	9	6	2	1	-
65-69	66	1	1	-1	-1	2	4	1	3	5	8	8	14	11	7	2	-
70-74	27	0	-1	-1	-1	-1	-1	1	2	4	1	5	3	1	4	4	2
>75	20	0	-1	-1	-1	-1	-1	-1	2	-1	3	2	2	3	3	3	2

MEDIAN AGE OF GROOMS = 28
MEDIAN AGE OF BRIDES = 26

TABLE 56B
MARRIAGES BY AGE OF GROOM AND AGE OF RESIDENT BRIDE
STATE OF HAWAII, 1988

AGES OF MARRIED COUPLE	TOTAL		NUMBER OF MARRIAGES RECORDED														
			BRIDE'S AGE														
	NUMBER OF MARRIAGES RECORDED	PERCENT	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
TOTAL	9398	100	1	121	694	2699	2636	1446	834	463	207	103	55	32	17	11	4
GROOM'S AGE																	
15-17	18	0	-1	6	9	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-
18-19	295	3	-1	41	135	100	16	3	-1	-1	-1	-1	-1	-1	-1	-1	-
20-24	2356	25	-1	61	420	1344	392	92	31	13	3	-1	-1	-1	-1	-1	-
25-29	2578	28	-1	10	105	872	1136	314	98	36	8	1	-1	-1	-1	-1	-
30-34	1646	18	-1	1	22	254	641	502	164	50	9	1	2	-1	-1	-1	-
35-39	1039	11	-1	1	3	82	271	312	250	91	22	5	1	1	-1	-1	-
40-44	589	6	-1	1	4	24	91	138	155	116	29	10	1	-1	-1	-1	-
45-49	331	4	-1	-1	1	12	39	57	81	76	44	10	7	2	1	-1	1
50-54	153	2	-1	-1	-1	3	10	17	25	31	41	19	5	1	-1	1	-
55-59	128	1	-1	-1	-1	3	4	4	13	28	25	27	14	7	3	-1	-
60-64	78	1	-1	-1	-1	-1	2	5	10	15	17	15	7	5	1	1	-
65-69	63	1	1	-1	-1	2	4	1	3	4	8	8	13	12	5	2	-
70-74	26	0	-1	-1	-1	-1	-1	1	2	3	-1	5	3	1	4	5	2
>75	18	0	-1	-1	-1	-1	-1	-1	2	-1	3	2	2	3	3	2	1

MEDIAN AGE OF GROOMS = 26
MEDIAN AGE OF BRIDES = 26

TABLE 57
MARRIAGES BY PREVIOUS MARITAL STATUS OF COUPLE BY AGE
STATE OF HAWAII, 1988

AGE OF GROOM	TOTAL		NUMBER OF MARRIAGES RECORDED				
			GROOM'S STATUS				
	NUMBER OF MARRIAGES RECORDED	PERCENT	UNKNOWN	WIDOWED	DIVORCED	ANNULLED	NEVER MARRIED
TOTAL	17281	100	11	430	6480	63	10307
< 15							
15-17	18	0	-	-	-	-	18
18-19	346	2	-	-	-	-	346
20-24	3097	18	-	-	150	5	2942
25-29	4387	25	1	5	691	17	3673
30-34	3389	20	-	21	1229	14	2125
35-39	2352	14	-	23	1499	13	817
40-44	1470	9	-	26	1174	8	262
45-49	900	5	-	35	790	5	70
50-54	447	3	-	39	379	1	28
55-59	361	2	-	54	299	-	8
60-64	227	1	-	60	160	-	7
65-69	146	1	-	65	76	-	5
70-74	89	1	-	61	26	-	2
>75	52	0	-	41	7	-	4

TABLE 57A
MARRIAGES BY PREVIOUS MARITAL STATUS OF COUPLE BY AGE
STATE OF HAWAII, 1988

AGE OF BRIDE	TOTAL		NUMBER OF MARRIAGES RECORDED				
			BRIDE'S STATUS				
	NUMBER OF MARRIAGES RECORDED	PERCENT	UNKNOWN	WIDOWED	DIVORCED	ANNULLED	NEVER MARRIED
TOTAL	17281	100	31	450	6360	61	10407
<15	1	0	-	-	1	-	-
15-17	128	1	-	-	1	-	127
18-19	839	5	-	-	1	1	837
20-24	4046	23	-	5	382	6	3653
25-29	4909	28	-	19	1246	17	3627
30-34	3115	18	2	31	1608	18	1456
35-39	1920	11	-	53	1340	9	518
40-44	1113	6	-	47	933	9	124
45-49	577	3	-	60	483	-	34
50-54	271	2	-	46	212	1	12
55-59	159	1	1	46	97	-	15
60-64	100	1	-	60	38	-	2
65-69	62	0	-	48	14	-	-
70-74	21	0	-	16	3	-	2
>75	20	0	-	19	1	-	-

TABLE 58
MARRIAGES BY OCCUPATION OF GROOM AND BRIDE
STATE OF HAWAII, 1988

CODES AND OCCUPATIONS	TOTAL		NUMBER OF MARRIAGES RECORDED									
			BRIDE'S OCCUPATION									
	NUMBER OF MARRIAGES RECORDED	PERCENT	0	1	2	3	4	5	6	7	8	9	10
TOTAL	17281	100	3258	3324	2827	3655	1160	129	310	1864	71	711	676
GROOM'S OCCUPATION													
0 NO OCCUPATION	625	4	289	74	61	88	25	11	4	58	-1	2	23
1 PROF, TECH & KIND	3499	20	381	1387	635	597	185	23	37	237	1	3	13
2 FARM, MAN & OFFI	1666	11	494	669	109	739	267	16	51	313	-1	12	10
3 CLER & KINDRED	625	2	49	73	50	155	29	3	10	47	-1	1	8
4 SALES WORKER	1007	6	150	193	186	217	242	6	6	91	-1	2	4
5 CRAFT, FOREMEN	1979	11	375	325	240	563	116	46	44	235	3	8	24
6 OPERATIVES	1526	9	303	167	136	447	95	16	89	209	-1	7	5
7 PRI HOUSEHOLD	1433	8	287	162	163	124	77	3	27	348	2	3	16
8 FARM LABORERS	161	0	71	31	11	-1	1	-1	1	21	1	-1	-
9 LABOR EX FARM	672	4	187	67	63	152	32	6	15	88	-1	31	1
10 ARMED FORCES	2945	14	736	224	123	374	91	7	26	236	-1	2	572

TABLE 59
MARRIAGES BY PREVIOUS MARITAL STATUS OF COUPLE
STATE OF HAWAII, 1988

MARITAL STATUS	TOTAL		NUMBER OF MARRIAGES RECORDED				
			BRIDE'S STATUS				
	NUMBER OF MARRIAGES RECORDED	PERCENT	UNKNOWN	WIDOWED	DIVORCED	ANNULLED	NEVER MARRIED
TOTAL	17281	100	31	450	6360	61	10407
GROOM'S STATUS							
UNKNOWN	11	0	1	-1	-1	-1	-
WIDOWED	410	2	-1	144	232	1	53
DIVORCED	6640	37	1	234	3941	28	2276
ANNULLED	63	0	-1	1	28	3	31
NEVER MARRIED	10397	60	1	71	2159	29	8047

TABLE 60
MARRIAGES BY NUMBER OF TIMES GROOM AND BRIDE PREVIOUSLY MARRIED
STATE OF HAWAII, 1988

MARRIAGE	TOTAL		NUMBER OF MARRIAGES RECORDED					
			MARRIAGE OF BRIDE					
	NUMBER OF MARRIAGES RECORDED	PERCENT	UNKNOWN	FIRST	SECOND	THIRD	FOURTH	FIFTH OR GREATER
TOTAL	17281	100	1	10408	5414	1200	216	42
MARRIAGE OF GROOM								
UNKNOWN	1	0	1	-1	-1	-1	-1	-
FIRST	10307	60	-1	8048	1984	242	28	5
SECOND	5384	31	-1	1990	2696	585	97	16
THIRD	1304	8	-1	327	608	296	61	12
FOURTH	242	1	-1	37	110	69	20	6
FIFTH OR GREATER	43	0	-1	6	16	8	10	3

TABLE 61
MARRIAGES BY RACE AND AGE OF GROOM
STATE OF HAWAII, 1988

RACE OF GROOM	TOTAL		NUMBER OF MARRIAGES RECORDED													
	NUMBER OF MARRIAGES RECORDED	PERCENT	GROOM'S AGE													
			15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
TOTAL	17281	100	18	346	3097	4387	3389	2352	1470	900	447	361	227	146	89	52
CAUCASIAN	11220	65	3	117	1654	2547	2257	1708	1155	728	351	290	179	114	77	40
HAWAIIAN	1578	9	9	98	461	434	246	139	78	54	29	13	14	5	1	-
CHINESE	441	3	2	2	46	152	109	67	30	7	7	6	6	3	2	2
FILIPINO	1182	7	3	57	378	360	169	93	44	26	12	13	7	9	2	9
JAPANESE	1542	9	-	18	152	519	400	216	107	48	26	25	16	9	5	1
KOREAN	150	1	-	-	19	54	28	16	13	5	7	1	2	4	1	-
SAMOAN	183	1	1	12	69	52	24	13	6	2	1	2	1	-	-	-
BLACK	693	4	-	30	252	178	104	60	28	23	8	8	1	1	-	-
VIETNAMESE	37	0	-	3	7	17	6	3	-	1	-	-	-	-	-	-
OTHER	255	1	-	9	59	74	46	37	9	9	6	3	1	1	0	-

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 61A
MARRIAGES BY RACE AND AGE OF RESIDENT GROOM
STATE OF HAWAII, 1988

RACE OF RESIDENT GROOM	TOTAL		NUMBER OF MARRIAGES RECORDED													
	NUMBER OF MARRIAGES RECORDED	PERCENT	GROOM'S AGE													
			15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
TOTAL	9427	100	18	316	2429	2585	1649	1039	578	335	154	128	83	66	27	20
CAUCASIAN	4030	43	3	98	1073	964	660	493	306	190	74	70	38	37	16	8
HAWAIIAN	1531	16	9	95	451	419	243	133	73	49	27	12	14	5	1	-
CHINESE	357	4	2	2	37	124	86	52	27	6	7	4	5	2	1	2
FILIPINO	1111	12	3	56	361	332	157	89	43	21	11	11	7	9	2	9
JAPANESE	1394	15	-	17	143	467	360	192	97	46	21	23	14	8	5	1
KOREAN	133	1	-	-	16	48	24	14	12	5	6	1	2	4	1	-
SAMOAN	177	2	1	12	66	51	23	13	5	2	1	2	1	-	-	-
BLACK	462	5	-	25	220	113	55	22	8	11	3	4	1	-	-	-
VIETNAMESE	33	0	-	2	7	14	6	3	-	1	-	-	-	-	-	-
OTHER	199	2	-	9	55	53	35	28	7	4	4	1	1	1	1	-

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 62
MARRIAGES BY RACE AND AGE OF BRIDE
STATE OF HAWAII, 1988

RACE OF BRIDE	TOTAL		NUMBER OF MARRIAGES RECORDED															
	NUMBER OF MARRIAGES RECORDED	PERCENT	BRIDE'S AGE															
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	
TOTAL	17281	100	1	128	839	4046	4909	3115	1920	1113	577	271	159	100	62	21	20	
CAUCASIAN	10463	61	-	44	353	2084	2766	2076	1361	832	454	207	115	84	53	14	20	
HAWAIIAN	1689	10	-	32	191	605	434	193	106	70	27	12	10	5	2	2	-	
CHINESE	496	3	-	-	17	96	187	106	50	24	8	3	2	1	1	1	-	
FILIPINO	1472	9	-	34	148	500	414	168	96	59	19	16	8	6	2	2	-	
JAPANESE	1928	11	1	5	41	382	773	383	190	70	44	20	14	3	1	1	-	
KOREAN	910	2	-	1	8	63	86	52	39	29	15	8	5	1	2	1	-	
SAMOAN	165	1	-	4	27	82	27	17	4	-	2	-	2	-	-	-	-	
BLACK	440	3	-	4	32	139	144	62	39	12	3	1	3	-	1	-	-	
VIETNAMESE	62	0	-	1	6	16	13	8	13	1	2	2	-	-	-	-	-	
OTHER	256	1	-	3	16	79	65	50	22	16	3	2	-	-	-	-	-	

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 62A
MARRIAGES BY RACE AND AGE OF RESIDENT BRIDE
STATE OF HAWAII, 1988

RACE OF RESIDENT BRIDE	TOTAL		NUMBER OF MARRIAGES RECORDED															
	NUMBER OF MARRIAGES RECORDED	PERCENT	BRIDE'S AGE															
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	
TOTAL	9298	100	1	121	699	2699	2606	1446	834	463	207	103	55	32	17	11	4	
CAUCASIAN	3333	36	-	39	237	907	792	584	363	215	98	46	17	16	10	5	4	
HAWAIIAN	1632	18	-	32	189	586	418	178	104	67	27	12	10	5	2	2	-	
CHINESE	386	4	-	-	16	86	135	81	37	20	6	2	2	1	-	-	-	
FILIPINO	1375	15	-	33	143	482	379	148	85	56	19	14	6	6	2	2	-	
JAPANESE	1647	18	1	5	41	331	650	326	163	59	36	17	13	3	1	1	-	
KOREAN	285	3	-	1	8	52	74	49	37	28	15	8	4	1	2	1	-	
SAMOAN	163	2	-	4	27	80	27	17	4	-	2	-	2	-	-	-	-	
BLACK	229	2	-	3	20	87	74	24	15	4	-	1	1	-	-	-	-	
VIETNAMESE	57	1	-	1	6	14	11	8	12	1	2	2	-	-	-	-	-	
OTHER	191	2	-	3	12	69	46	31	14	13	2	1	-	-	-	-	-	

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 63
MARRIAGES BY RESIDENCE COUNTY OF GROOM AND BRIDE
STATE OF HAWAII, 1988

COUNTY	TOTAL		NUMBER OF MARRIAGES RECORDED						
			BRIDE'S RESIDENCE						
	NUMBER OF MARRIAGES RECORDED	PERCENT	HONOLULU	HAWAII	MAUI	KAUAI	MAINLAND	FOREIGN	UNKNOWN
TOTAL	17281	100	7212	845	838	402	7001	982	1
GROOM'S RESIDENCE									
HONOLULU	7329	42	6914	16	14	3	277	105	-
HAWAII	835	5	21	807	1	1	3	2	-
MAUI	854	5	19	3	814	1	12	5	-
KAUAI	408	2	7	2	1	391	6	1	-
MAINLAND	6951	40	202	15	5	6	6670	53	-
FOREIGN	903	5	49	2	3	-	33	816	-
UNKNOWN	1	0	-	-	-	-	-	-	1

TABLE 63A
MARRIAGES BY GEOGRAPHIC AREA OF RESIDENCE OF GROOM AND BRIDE
STATE OF HAWAII, 1988

GEOGRAPHIC AREA	TOTAL		NUMBER OF MARRIAGES RECORDED										
			BRIDE'S RESIDENCE										
	NUMBER OF MARRIAGES RECORDED	PERCENT	HONOLULU	OAHU RURAL	HILO	BIG ISLAND RURAL	MAUI	LANAI	MOLOKAI	KAUAI	MAINLAND	FOREIGN	UNKNOWN
TOTAL	17281	100	3330	3882	265	580	793	6	39	402	7001	982	1
GROOM'S RESIDENCE													
HONOLULU	3058	18	2698	274	-	4	1	-	1	2	35	43	-
OAHU RURAL	4271	25	476	3466	4	8	11	-	1	1	242	62	-
HILO	257	1	5	4	225	22	-	-	-	-	-	1	-
BIG ISLAND RURAL	578	3	9	3	29	531	1	-	-	1	3	1	-
MAUI	830	5	7	6	1	1	769	-	-	1	10	5	-
LANAI	11	0	2	1	-	-	2	6	-	-	-	-	-
MOLOKAI	43	0	2	1	1	-	-	-	37	-	2	-	-
KAUAI	408	2	2	5	-	2	1	-	-	391	6	1	-
MAINLAND	6951	40	95	107	5	10	5	-	-	6	6670	53	-
FOREIGN	903	5	34	15	-	2	3	-	-	-	33	816	-
UNKNOWN	1	0	-	-	-	-	-	-	-	-	-	-	1

TABLE 64
MARRIAGES BY RACE OF GROOM AND RACE OF BRIDE
STATE OF HAWAII, 1988

ALL COUPLES	TOTAL		NUMBER OF MARRIAGES RECORDED									
	NUMBER OF MARRIAGES RECORDED	PERCENT	RACE OF BRIDE									
			CAUC	HAW'N	CHIN	FIL'A	JAP'N	KOR'N	SAM'N	BLACK	VIET	OTHER
TOTAL	17281	100	10463	1689	496	1472	1928	310	165	440	62	256
RACE OF GROOM												
CAUCASIAN	11220	65	9280	448	184	451	531	101	22	56	22	125
HAWAIIAN	1578	9	383	726	38	179	204	15	15	2	2	14
CHINESE	441	3	79	47	155	21	112	15	1	2	5	4
FILIPINO	1182	7	205	173	12	652	106	14	3	1	2	14
JAPANESE	1543	9	214	151	83	103	895	77	1	6	4	8
KOREAN	150	1	23	9	3	2	32	79	-	-	-	2
SAMOAN	183	1	16	50	1	4	5	2	98	1	-	6
BLACK	693	4	171	47	9	34	26	4	19	366	1	11
VIETNAMESE	47	0	3	1	2	1	3	1	-	-	25	1
OTHER	255	1	84	37	9	20	14	2	6	6	1	71

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 64A
MARRIAGES BY RACE OF RESIDENT GROOM AND RACE OF BRIDE
STATE OF HAWAII, 1988

RACE OF RESIDENT GROOM	TOTAL		NUMBER OF MARRIAGES RECORDED									
	NUMBER OF MARRIAGES RECORDED	PERCENT	RACE OF BRIDE									
			CAUC	HAW'N	CHIN	FIL'A	JAP'N	KOR'N	SAM'N	BLACK	VIET	OTHER
TOTAL	9427	100	3511	1606	376	1356	1635	277	155	257	56	198
CAUCASIAN	4093	43	2530	388	116	389	374	81	19	32	20	81
HAWAIIAN	1531	16	359	718	36	176	194	15	15	2	2	14
CHINESE	357	4	54	45	117	18	99	14	1	1	5	3
FILIPINO	1133	12	181	170	11	619	99	14	3	1	1	12
JAPANESE	1396	15	182	149	76	95	801	74	1	5	3	8
KOREAN	133	1	17	9	3	2	28	72	-	-	-	2
SAMOAN	177	2	16	50	1	3	5	2	93	1	-	6
BLACK	462	5	119	42	5	34	22	3	17	210	1	9
VIETNAMESE	33	0	2	1	2	1	2	1	-	-	23	1
OTHER	199	2	51	34	9	19	11	1	6	5	1	62

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 64B
MARRIAGES BY RACE OF GROOM AND RACE OF RESIDENT BRIDE
STATE OF HAWAII, 1988

RESIDENT BRIDES	TOTAL		NUMBER OF MARRIAGES RECORDED									
			RACE OF BRIDE									
	NUMBER OF MARRIAGES RECORDED	PERCENT	CAUC	HAW'N	CHIN	FIL'A	JAP'N	KOR'N	SAM'N	BLACK	VIET	OTHER
TOTAL	9298	100	3333	1632	386	1375	1647	285	163	229	57	191
RACE OF GROOM												
CAUCASIAN	3922	42	2382	407	123	396	384	80	21	32	20	77
HAWAIIAN	1530	16	353	719	36	176	198	15	15	2	2	14
CHINESE	359	4	52	46	117	20	100	15	1	1	4	3
FILIPINO	1119	12	178	170	11	627	100	14	3	1	2	12
JAPANESE	1390	15	177	149	78	97	797	76	1	5	3	7
KOREAN	140	2	17	9	3	2	30	77	-	-	-	2
SAMOAN	191	2	16	50	1	4	5	2	97	-	-	6
BLACK	433	5	112	45	6	33	20	4	19	184	1	9
VIETNAMESE	33	0	2	1	2	1	1	1	-	-	24	1
OTHER	192	2	44	36	9	19	12	1	6	4	1	60

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 65
OUTMARRIAGES BY RACE OF RESIDENT BRIDE
STATE OF HAWAII, 1988

RACE OF RESIDENT BRIDE	TOTAL		NUMBER OF MARRIAGES RECORDED	
			BRIDE	
	NUMBER OF MARRIAGES RECORDED	PERCENT	OUT MARRIAGE	IN MARRIAGE
TOTAL	9298	100	4214	5084
CAUCASIAN	3333	36	951	2382
HAWAIIAN	1632	18	913	719
CHINESE	386	4	269	117
FILIPINO	1375	15	748	627
JAPANESE	1647	18	850	797
KOREAN	285	3	208	77
SAMOAN	163	2	66	97
BLACK	229	2	45	184
VIETNAMESE	57	1	33	24
OTHER	191	2	131	60

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 65A
OUTMARRIAGES BY RACE OF RESIDENT GROOM
STATE OF HAWAII, 1988

RACE OF RESIDENT GROOM	TOTAL		NUMBER OF MARRIAGES RECORDED	
			GROOM	
	NUMBER OF MARRIAGES RECORDED	PERCENT	OUT MARRIAGE	IN MARRIAGE
TOTAL	9427	100	4182	5245
CAUCASIAN	4030	43	1500	2530
HAWAIIAN	1531	16	813	718
CHINESE	357	4	240	117
FILIPINO	1111	12	492	619
JAPANESE	1394	15	593	801
KOREAN	133	1	61	72
SAMOAN	177	2	84	93
BLACK	462	5	252	210
VIETNAMESE	33	0	10	23
OTHER	199	2	137	62

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 66
MARRIAGES OF FOREIGN-RESIDENT GROOMS
STATE OF HAWAII, 1988

RACE OF GROOM	TOTAL	
	NUMBER OF MARRIAGES RECORDED	PERCENT
TOTAL	982	100
CAUCASIAN	845	86
HAWAIIAN	31	3
CHINESE	28	3
FILIPINO	14	1
JAPANESE	57	6
BLACK	20	2
VIETNAMESE	2	0
OTHER	13	1

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 66A
MARRIAGES OF FOREIGN-RESIDENT BRIDES
STATE OF HAWAII, 1988

RACE OF BRIDE	TOTAL	
	NUMBER OF MARRIAGES RECORDED	PERCENT
TOTAL	982	100
CAUCASIAN	785	80
HAWAIIAN	21	0
CHINESE	32	3
FILIPINO	31	3
JAPANESE	106	11
KOREAN	31	0
BLACK	6	1
OTHER	19	2

CAUCASIAN INCLUDES PUERTO RICAN, PORTUGUESE, MEXICAN, AND CUBAN.
HAWAIIAN INCLUDES PART-HAWAIIAN.

TABLE 67

DIVORCES AND ANNULMENTS BY PLACE AND MONTH OF OCCURRENCE
STATE OF HAWAII, 1988

COUNTY OF OCCURRENCE		YEAR		MONTH OF OCCURRENCE											
		NUMBER	RATE*	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
STATE OF HAWAII	NUMBER	5,020	4.6	437	362	285	338	389	313	349	413	723	450	380	581
	PERCENT	100.0	...	8.7	7.2	5.7	6.7	7.7	6.2	7.0	8.2	14.4	9.0	7.6	11.6
HAWAII		466	4.0	31	37	38	42	39	43	36	37	39	35	35	54
HONOLULU		4,006	4.8	363	290	209	252	309	228	266	330	632	369	298	460
KAUAI		187	3.8	18	9	10	19	12	14	16	25	24	8	17	15
MAUI		361	3.9	25	26	28	25	29	28	31	21	28	38	30	52
UNKNOWN															

*RATE PER 1,000 RESIDENT POPULATION

TABLE 68

DIVORCES AND ANNULMENTS BY NUMBER OF CHILDREN REPORTED UNDER 18 YEARS
STATE OF HAWAII, 1988

TYPE OF DECREE		TOTAL		NUMBER OF CHILDREN REPORTED UNDER 18 YEARS OF AGE											
		NUMBER	PERCENT	NONE	1	2	3	4	5	6	7	8	9	> 9	UNKNOWN
TOTAL	NUMBER	5,020	100.0	2395	1216	949	326	101	25	4		1			3
	PERCENT	100.0		47.7	24.2	18.9	6.5	2.0	.5	.1					.1
DIVORCES		5,005	99.7	2388	1214	944	325	101	25	4		1			3
ANNULMENTS		14	.3	7	2	4	1								
UNKNOWN		1				1									

TABLE 69

DIVORCES AND ANNULMENTS BY RACE AND AGE OF HUSBAND
STATE OF HAWAII, 1988

RACE OF HUSBAND		ALL AGES		AGE OF HUSBAND														
		NUMBER	PERCENT	UNDER 18	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75 & OVER	UNKNOWN
ALL RACES	NUMBER	5,020	100.0		4	480	1009	1031	838	676	425	208	155	95	46	7	17	29
	PERCENT	100.0			.1	9.6	20.1	20.5	16.7	13.5	8.5	4.1	3.1	1.9	.9	.1	.3	.6
CAUCASIAN		2,427	48.3		2	283	515	435	398	324	207	97	68	49	22	4	5	18
HAWAIIAN		68	1.4		1	3	10	12	13	10	11	3	2	2	1			
PART HAWAIIAN		485	9.7		1	50	94	112	82	66	37	21	12	5	3	2		
CHINESE		175	3.5			5	21	45	43	19	17	12	6	4	3			
FILIPINO		533	10.6			37	108	127	68	74	45	22	21	13	4		9	5
JAPANESE		657	13.1			15	81	156	130	122	67	29	30	15	7	1	1	3
PUERTO RICAN		47	.9			6	11	8	11	4	2	3	1		1			
KOREAN		105	2.1			1	10	25	21	14	15	10	4	2	1		1	1
SAMOAN		34	.7			6	7	5	7	3	3		1		1		1	
BLACK		299	6.0			57	114	60	39	14	7	2	3	2				1
PORTUGUESE		94	1.9			5	15	20	12	18	7	8	6	1	2			
VIETNAMESE		8	.2				1	2	3	1	1							
OTHER RACES		82	1.6			9	21	24	11	7	6	1	1	1	1			
UNKNOWN		6	.1			3	1							1				1

TABLE 70

DIVORCES AND ANNULMENTS BY RACE AND AGE OF WIFE
STATE OF HAWAII, 1988

RACE OF WIFE		ALL AGES		AGE OF WIFE															
		NUMBER	PERCENT	UNDER 18	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75 & OVER	UNKNOWN
ALL RACES	NUMBER	5,320	100.0	1	43	717	1163	1083	793	549	296	152	104	49	23	5	3	39
	PERCENT	100.0			.8	13.5	21.9	20.4	14.9	10.3	5.6	2.9	2.0	.9	.4	.1	.1	.7
CAUCASIAN		2,477	46.6	1	20	385	517	457	332	245	146	58	33	21	11	2	3	18
HAWAIIAN		51	1.0			6	10	8	11	10	3	2	1					
PART HAWAIIAN		527	13.5		3	86	138	101	86	59	30	7	11	3	3			
CHINESE		177	3.3			15	25	49	30	27	15	5	4	5	2			
FILIPINO		622	12.9		8	83	165	142	90	57	23	21	16	6	1	2		8
JAPANESE		709	14.1		6	60	147	170	134	87	50	35	22	13	1			3
PUERTO RICAN		39	.9			6	7	8	6	5	4							
KOREAN		243	6.8			16	44	63	48	29	15	15	9	1		1		2
SAMOAN		24	.5			5	4	6	3	2	2	1	1					
BLACK		202	4.0		2	54	71	35	18	9	3		2		1			5
PORTUGUESE		56	1.1		1	6	16	10	10	3		4	2		3			1
VIETNAMESE		30	.6			3	3	8	8	6	1	1						
OTHER RACES		89	1.8		3	9	13	25	17	9	6	3	3		1			2
UNKNOWN		4	.1			1	1	1		1								

TABLE 71

DIVORCES AND ANNULMENTS BY RACE OF HUSBAND AND OF WIFE
STATE OF HAWAII, 1988

RACE OF HUSBAND		ALL RACES		RACE OF WIFE														
		NUMBER	PERCENT	CAUCASIAN	HAWN	PART HAWN	CHINESE	FILIPINO	JAPANESE	PUERTO RICAN	KOREAN	SAMOAN	BLACK	PORTUGUESE	VIETNAMESE	OTHER RACES	UNKNOWN
ALL RACES	NUMBER	5,320	100.0	2249	51	527	177	622	708	38	243	24	202	56	30	89	4	
	PERCENT	100.0		44.8	1.0	10.5	3.5	12.4	14.1	.8	4.8	.5	4.0	1.1	.6	1.8	.1	
CAUCASIAN		2,477	46.3	1758	16	105	45	171	168	7	78	7	15	4	16	35	2	
HAWAIIAN		68	1.4	19	13	16	2	6	2	1	3			3	1	2		
PART HAWAIIAN		485	9.7	113	7	196	20	53	51	9	8	2	1	17		8		
CHINESE		175	3.5	38	2	16	58	8	40		5	2	2	2	2			
FILIPINO		533	13.6	93	2	61	7	296	50	4	5	2	3	12	2	6		
JAPANESE		657	13.1	99		62	36	43	355	1	49			1	2	8	1	
PUERTO RICAN		47	.9	15		3		7	3	11	1		1			1		
KOREAN		105	2.1	10		6	1	1	10		79							
SAMOAN		34	.7	8	2	9	1	1		1	1	7		2		2		
BLACK		299	6.0	60	3	11	2	17	11		11	4	177	2		1		
PORTUGUESE		94	1.9	18	4	24	4	13	12	4	1			10		4		
VIETNAMESE		8	.2	1					1						6			
OTHER RACES		87	1.6	25	1	15	1	6	5				3	3	1	22		
UNKNOWN		6	.1	2	1						2						1	

TABLE 72

DIVORCES AND ANNULMENTS BY LEGAL GROUNDS AND DURATION OF MARRIAGE
STATE OF HAWAII, 1988

LEGAL GROUNDS		TOTAL		DURATION OF MARRIAGE IN YEARS														
		NUMBER	PERCENT	UNDER 1	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & OVER	UNKNOWN
DIVORCES & ANNULMENTS	NUMBER	5,020	100.0	162	408	505	473	454	1534	700	432	261	86				5
	PERCENT	100.0		3.2	8.1	10.1	9.4	9.0	30.6	13.9	8.6	5.2	1.7				.1
ABSOLUTE DIVORCES *		5,006	99.7	159	404	505	473	453	1530	698	432	261	86				5
MARR.IRRETR.BROKEN		4,974	99.1	157	403	504	468	451	1517	693	431	260	85				5
SEPARATION		30	.6	2	1	1	5	2	13	4	1		1				
GRIEV.MENTAL SUFF.		1										1					
OTHER																	
UNKNOWN		1								1							
ANNULMENTS		14	.3	3	4			1	4	2							
MINOR		1						1									
UNDIV.SPOUSE ALIVE		11	.2	2	4				3	2							
DID NOT COHABIT																	
FAILURE TO PROVIDE																	
PHYS. INCOMPATIBLE																	
FRAUD		2		1					1								
OTHER																	
UNKNOWN																	

* INCLUDES TYPE OF DECREE UNSPECIFIED.

TABLE 73

DIVORCES AND ANNULMENTS BY EDUCATION OF HUSBAND AND OF WIFE
STATE OF HAWAII, 1988

EDUCATION OF HUSBAND YEARS OF SCHOOL		TOTAL		EDUCATION OF WIFE - YEARS IN SCHOOL												
				GRADE SCHOOL								COLLEGE				UNKNOWN
		NUMBER	PERCENT	NONE	1-4	5-6	7-8	9	10	11	12	1-3	4	5+		
TOTAL	NUMBER	5,020	100.0	4	19	52	41	70	124	171	2276	1328	522	289		124
	PERCENT	100.0		.1	.4	1.0	.8	1.4	2.5	3.4	45.3	26.5	10.4	5.8		2.5
NONE		2							1		1					
GRADE SCHOOL: 1 - 4		13	.3			1	1		2		4	3	1			1
5 - 6		28	.6		1	9	2	1	2	1	7	2	1	1		1
7 - 8		53	1.1		1		2	2	6	2	20	6	6	4		4
9		65	1.3			5	2	6	5	7	28	7		2		3
10		121	2.4		2		2	6	13	11	63	16	1	3		4
11		147	2.9		3	2		2	7	14	76	31	5	1		6
12		2,379	47.4	2	9	16	21	36	69	93	1446	469	116	46		56
COLLEGE: 1 - 3		1,109	22.1	2		9	3	9	10	23	381	455	132	57		28
4		583	11.6		1	6	2	4	4	11	136	186	166	59		8
5+		366	7.3		1			1	1	2	44	117	87	113		
UNKNOWN		156	3.1		1	4	6	3	4	7	70	36	7	3		13

TABLE 74

DIVORCES AND ANNULMENTS BY RESIDENCE OF HUSBAND AND OF WIFE
STATE OF HAWAII, 1988

RESIDENCE OF HUSBAND	TOTAL RECORDED	TOTAL	RESIDENCE OF WIFE: STATE OF HAWAII												NON-RESIDENT
			COUNTY OF HAWAII			COUNTY OF HONOLULU			COUNTY OF KAUAI	COUNTY OF MAUI				UNKNOWN	
			TOTAL	HILO	BAL.	TOTAL	HON.	BAL.		TOTAL	MAUI	LANAI	MOLOKAI		
TOTAL RECORDED	5,020	4,449	429	140	289	3,522	1,603	1,919	161	319	300	5	14	18	571
STATE OF HAWAII	4,380	3,822	379	125	254	3,008	1,392	1,616	143	274	258	4	12	18	558
COUNTY OF HAWAII	410	379	341	114	227	32	18	14	2	4	3	1			31
CITY OF HILO	107	104	96	73	21	10	6	4							3
BALANCE OF COUNTY	303	275	247	41	206	22	12	10	2	4	3	1			28
COUNTY OF HONOLULU	3,442	2,968	28	10	18	2,903	1,334	1,569	12	13	11	1	1	12	474
CITY OF HONOLULU	1,466	1,301	15	6	9	1,272	952	320	7	3	3			4	165
BALANCE OF COUNTY	1,976	1,667	13	4	9	1,631	382	1,249	5	10	8	1	1	8	309
COUNTY OF KAUAI	179	158	1		1	25	18	7	125	4	3		1	3	21
COUNTY OF MAUI	316	284	2	1	1	29	14	15	1	249	237	2	10	3	32
ISLAND OF MAUI	298	269	2	1	1	28	13	15	1	235	234	1		3	29
ISLAND OF LANAI	4	4				1	1			3	2	1			
ISLAND OF MOLOKAI	14	11								11	1		10		3
UNKNOWN	33	33	7		7	19	8	11	3	4	4				
NONRESIDENT	640	627	50	15	35	514	211	303	18	45	42	1	2		13

TABLE 75

DIVORCES AND ANNULMENTS BY AGE OF HUSBAND AND OF WIFE
STATE OF HAWAII, 1988

AGE OF HUSBAND		ALL AGES		AGE OF WIFE														
		NUMBER	PERCENT	UNDER 18	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75 & OVER	UNKNOWN
ALL AGES	NUMBER	5,020	100.0	1	43	717	1163	1083	793	549	296	152	104	49	23	5	3	39
	PERCENT	100.0			.9	14.3	23.2	21.6	15.8	10.9	5.9	3.0	2.1	1.0	.5	.1	.1	.8
UNDER 18																		
18 - 19		4	.1		1	2	1											
20 - 24		480	9.6	1	32	322	95	17	4	1	2							6
25 - 29		1,009	20.1		7	284	541	122	31	9	5	3	1					6
30 - 34		1,031	20.5			80	347	448	106	33	5	2			1	1		8
35 - 39		838	16.7		1	12	107	302	323	68	14	4	1					6
40 - 44		676	13.5			7	47	118	225	218	40	15	2	1				3
45 - 49		425	8.5		1	3	13	46	62	147	122	13	10	2	1			5
50 - 54		208	4.1				3	11	19	44	66	49	8	5	1	1		1
55 - 59		155	3.1			2	1	7	10	16	24	42	46	4	1	1		1
60 - 64		95	1.9				2	5	3	6	12	14	23	23	6	1		
65 - 69		46	.9				1	1	1	2	4	6	8	9	11		2	1
70 - 74		7	.1						1	2	1	1	1	1				
75 & OVER		17	.3				1		5	1		1	2	3	2	1	1	
UNKNOWN		29	.6		1	5	4	6	3	2	1	2	2	1				2

HAWAII TUMOR REGISTRY

The total number of resident cancer cases reported in Hawaii in 1987 (the most recent year of complete registration) was 3,682. This represented a 3.0 percent increase over the 3,576 cases reported in 1986. The 1,846 new male cases represented an increase of 71 cases, or 4.0 percent, above the total cases registered the previous year. The 1,836 new female cases represented an increase of 35, or 1.9 percent, over the total of the previous year.

The sites of the three most common cancers among resident males in 1987 were lung (334 cases), prostate (323), and colon (237). Among the females, the sites of the three most common cancers in 1987 were breast (633), uterus-corpus and cervix combined (189) and colon (174).

The lung cancer cases for both sexes combined continued its upward trend totaling 401 in 1985, 452 in 1986, and 498 in 1987. The 1987 increase was due to an increase in male lung cancer cases which totaled 290 in 1986 and 334 in 1987.

Prostate cancer was most common among males of Caucasian and Filipino ancestries while lung cancer was most often seen among the Hawaii males. Colon cancer was the most frequent site for Japanese males.

Cancer of the breast was the leading site for females of all race categories. The Japanese and Caucasian women led other race groups with 205 cases and 204 cases respectively.

The median age at diagnosis for resident males in 1987 was 68.5 years as compared to 67.8 years for 1986. The median age at diagnosis for resident females was 62.4 years, up 5.8 percent over the figure of 59.0 years for 1986.

TABLE 1
COMMON CANCERS REPORTED BY SITE AND RACE
MALE RESIDENTS
STATE OF HAWAI'I 1987

	Total All Races	RACE					
		Caucasian	Chinese	Filipino	Hawaiian	Japanese	Others
Total All Sites	1,846	618	103	231	193	553	148
SITE							
Bladder (188)	98	44	8	8	6	25	7
Colon (153)	237	67	18	23	16	99	14
Hematopoietic (169)	58	23	1	8	7	12	7
Lung (162)	334	114	15	36	56	85	28
Skin (173)	60	38	0	3	3	2	14
Prostate (185)	323	120	14	56	19	91	23
Rectum (154)	110	20	12	19	9	42	8
Stomach (151)	95	12	4	9	8	57	5
Other Sites	531	180	31	69	69	140	42

TABLE 2
COMMON CANCERS REPORTED BY SITE AND RACE
FEMALE RESIDENTS
STATE OF HAWAI'I 1987

	Total All Races	RACE					
		Caucasian	Chinese	Filipino	Hawaiian	Japanese	Others
Total All Sites	1,836	574	129	142	238	568	185
SITE							
Breast (174)	633	204	45	31	96	205	52
Cervix (180)	91	31	4	7	10	18	21
Uterus (179,182)	98	26	5	5	14	36	12
Colon (153)	174	42	20	13	9	76	14
Lung (162)	164	61	10	19	29	30	15
Ovary (183)	60	19	7	7	7	17	3
Rectum (154)	69	15	7	8	5	27	7
Stomach (151)	73	10	4	5	12	34	8
Thyroid (193)	61	12	5	14	9	10	11
Other Sites	413	154	22	33	47	115	42

TABLE 3
TUMOR REGISTRATIONS
AGE AT DIAGNOSIS BY RACE
MALE RESIDENTS
STATE OF HAWAI'I 1987

	Total All Races	RACE					
		Caucasian	Chinese	Filipino	Hawaiian	Japanese	Others
Total All Ages	1,846	618	103	231	193	553	148
AGE							
1 - 4 Years	9	1	0	1	3	2	2
5 - 14 Years	11	1	1	3	3	0	3
15 - 24 Years	18	8	0	2	2	2	4
25 - 34 Years	41	20	2	7	4	3	5
35 - 44 Years	83	39	2	6	11	12	13
45 - 54 Years	140	55	8	13	23	26	15
55 - 64 Years	394	132	26	36	47	118	35
65 - 74 Years	655	223	31	52	65	237	47
75+ Years	494	139	33	111	35	153	23
Unknown	1	0	0	0	0	0	1

TABLE 4
TUMOR REGISTRATIONS
AGE AT DIAGNOSIS BY RACE
FEMALE RESIDENTS
STATE OF HAWAI'I 1987

	Total All Races	RACE					
		Caucasian	Chinese	Filipino	Hawaiian	Japanese	Others
Total All Ages	1,836	574	129	142	238	568	185
AGE							
< 1 Year	2	1	0	0	0	1	0
1 - 4 Years	7	1	0	0	2	2	2
5 - 14 Years	7	3	0	1	0	2	1
15 - 24 Years	20	6	2	3	4	1	4
25 - 34 Years	84	27	1	15	6	10	25
35 - 44 Years	200	64	16	16	28	39	37
45 - 54 Years	275	75	10	29	52	74	35
55 - 64 Years	439	117	32	39	66	157	28
65 - 74 Years	454	149	37	22	52	167	27
75+ Years	343	130	30	17	28	114	24
Unknown	5	1	1	0	0	1	2

HEALTH PROMOTION
AND
EDUCATION OFFICE

HPEB REPORT - 1988 STATISTICAL ANNUAL REPORT

The Behavioral Risk Factor Surveillance System (BRFSS) was initiated in Hawaii in 1986 by the Health Promotion and Education Office, now the Health Promotion and Education Branch, with the assistance of the Centers for Disease Control (CDC). The BRFSS is designed to collect information on health risk behaviors of Hawaii adult residents and to monitor the prevalence of these behaviors over time. The risk factors surveyed are major contributors to premature death and disability. They include cigarette smoking, hypertension, obesity, physical inactivity, seatbelt nonuse, and alcohol misuse.

The BRFSS is comprised of monthly telephone surveys that follow a recommended CDC sampling procedure which uses a version of random-digit dialing based on clusters of telephone numbers. The sampling frame was stratified by island to obtain information specific to each island as well as to the population as a whole. Molokai and Lanai were combined. Niihau lacks telephone service and, therefore, was not included in the survey.

The Behavioral Risk Factor Survey has a number of questions which were selected for comparability from national surveys. Similar methods used each year by states conducting this CDC-sponsored survey also allow for comparisons of risk factor prevalence and the monitoring of trends over time.

The Hawaii sample was drawn from all residents over the age of 18, excluding institutionalized persons and on-base military personnel. One thousand eight hundred and sixty-five (1865) interviews were completed over a 12-month period from January through December, 1988. Highlights of the 1988 data are cited here.

Seatbelt Nonuse

An estimated six percent (6.4%) of Hawaii's population "sometimes, seldom, or never" use seatbelts when driving or riding in a car (table 1). This low percentage suggests a continuing high degree of conformation to Hawaii's seatbelt law, which became effective December, 1985. Demographic characteristics that were found to be significant for seatbelt nonuse were island, combined neighbor islands (vs Oahu), sex, race, and marital status (table 2, 3).

(1) **Island:** Seatbelt nonuse was greater on neighbor islands (combined) compared to Oahu. Among the islands, nonuse was highest on Maui and Molokai/Lanai.

(2) **Sex:** The percentage of males not using seatbelts was more than twice the percentage of females not using seatbelts.

(3) **Race:** Japanese had the highest percentage of seatbelt nonuse.

(4) **Marital Status:** Members of unmarried couples and those who had never been married had the highest percentage of seatbelt nonuse.

Seatbelt nonuse was not found to be significantly associated with age, education, employment, or income.

Hypertension

Survey respondents were defined as hypertensive if: a) they were told more than once that their blood pressure is high, b) they were on medication at the time, or c) they reported that their blood pressure is still high. In 1988, 15.3% of the adult population reported having hypertension. Demographic variables that were found to be significant for hypertension were island, combined neighbor islands, age, race, education, employment, marital status, and income.

(1) **Island:** The prevalence of hypertension was greater on the neighbor islands (combined) compared to Oahu, and was especially high on Molokai/Lanai.

(2) **Age:** The percentage of people with hypertension increased with age, from 1.1% for those 18-24 years of age to 34.8% for those over 65.

(3) **Race:** Hawaiians/Part-Hawaiians and Japanese had the highest percentage of adults with hypertension.

(4) **Education:** The lowest education levels, eighth grade or less and some high school, had the highest percentage of those with hypertension.

(5) **Employment Status:** Homemakers and retired persons had the highest percentage of those with hypertension. It should be noted that the high percentage for retirees is probably confounded by age.

(6) **Marital Status:** Widows had the highest percentage of hypertensive adults.

(7) **Household Income:** Persons with incomes of $10,000 and under had the highest percentage of people who were hypertensive.

Hypertension was not found to be significantly associated with sex.

Sedentary Lifestyle

More than one half (54.1%) of all adults in Hawaii had a sedentary lifestyle. Respondents who reported no physical activity or levels of physical activity less than three times a week or less than 20 minutes per occasion were considered to be sedentary. Statistically significant differences in sedentary lifestyle were found in the following demographic variables: sex, age, race, education, and household income.

(1) **Sex:** A higher percentage of women were sedentary compared to men.

(2) **Age:** With the exception of the 65 and over age group, sedentary lifestyle prevalence increased with age from 46.1% for the 18-24 age group to 60.8% for the 59-64 age group.

(3) **Race:** Filipinos had the highest percentage of people with a sedentary lifestyle.

(4) **Education:** Those with some high school education and those with technical school (some technical school, and technical school graduates) had the highest percentage.

(5) **Household Income:** Those with incomes less than $10,000 had the highest percentage.

Sedentary lifestyle was not found to be significantly associated with island, employment, or marital status.

In 1988, the 10 most popular physical activities that Hawaii adults participated in were walking (28.5%), jogging/running (10.2%), gardening (9.4%), swimming (7.4%), aerobics (6.0%), golf (4.9%), weight lifting (4.8%), calisthenics (4.3%), bicycling (3.8%), and tennis (2.7%).

Obesity

Nearly one out of every five Hawaii adult residents (19.4%) were considered obese. For the purposes of the survey, obesity was defined as 20% or more above "ideal weight". Ideal weight is defined as the "mid-value of a medium frame person from the 1959 Metropolitan height-weight tables." Statistically significant differences in obesity were found in the following demographic variables: island, combined neighbor islands, sex, age, race, education, and employment.

(1) **Island:** The neighbor islands (combined) had a higher percentage of obesity than Oahu. Molokai/Lanai had the highest percentage, more than one and a half times greater than the state prevalence.

(2) **Sex:** A slightly higher percentage of males were obese than females.

(3) **Age:** The percentage of obesity increased with age until the 35-44 year age group, and then decreased.

(4) **Race:** Hawaiians/Part-Hawaiians had the highest percentage of people who were obese, more than two times greater than the state prevalence.

(5) **Education:** High school graduates and those with some high school education had the highest percentage of people who were obese.

(6) **Household Income:** No trend was found but those with incomes of $15,000 to 20,000 had a higher percentage of obesity.

Obesity was not found to be significantly associated with marital status.

Cigarette Smoking

An estimated twenty-three percent of the adult population were identified as smokers ("ever smoked 100 cigarettes and smokes now"). Of those who smoked, 50.4% smoked less than one pack daily, 42.4% smoked on the average of one to two packs a day, and 6% smoked more than 2 packs a day. About one half (47.7%) of the smokers had stopped smoking for at least a week during the past year. Demographic variables that were found to be significantly related to smoking status were sex, age, race, education, employment, marital status, and income.

(1) **Sex:** A slightly higher percentage men than women were smokers.

(2) **Age:** The proportion of smokers increased with age until the 35-44 year age group, and then decreased.

(3) **Race:** Hawaiians/Part-Hawaiians had the highest percentage of smokers.

(4) **Education:** Persons with some high school and high school graduates had the highest percentage of smokers.

(5) **Employment:** The unemployed had the highest percentage of smokers.

(6) **Marital Status:** Persons who were separated and persons who were divorced had the highest percentage of smokers.

(7) **Household Income:** No trend was found but those who earned from $15,000 to $20,000 had the highest percentage.

Cigarette smoking was not found to be significantly associated with island.

Acute or Binge Drinking

Nearly 20% of Hawaii's adult population reported binge drinking in 1988. Binge drinking, also called acute drinking, was defined as "having five or more drinks on an occasion, one or more times during the past month." Demographic variables that were found to be significantly related to acute drinking were island, combined neighbor islands (vs Oahu), sex, age, race, education, employment, marital status, and income.

(1) **Island:** The percentage of adults who reported binge drinking was higher on the neighbor islands (combined) than on Oahu. Maui had the highest percentage of adults that reported binge drinking.

(2) **Sex:** The percentage of males that engaged in binge drinking was more than triple the percentage of women that engaged in binge drinking.

(3) **Age:** The percentage of adults that reported binge drinking decreased as age increased.

(4) **Race:** Hawaiians/Part-Hawaiians and Caucasians had the highest percentage of binge drinking.

(5) **Education:** Those with technical school (some technical school, and technical school graduates) had the highest percentage.

(6) **Employment:** Students and the unemployed had the highest percentage of binge drinking.

(7) **Marital Status:** Those who were separated, persons who had never been married, and members of an unmarried couple, had the highest percentage who reported acute drinking.

(8) **Income:** No trend was found, but those earning from $15,000 to $20,000 and $25,000 to $35,000 had a slightly higher percentage of binge drinking.

Chronic Drinking

Chronic drinking was defined as "having an average of two or more drinks per day during the past month". In 1988, 9.2% of Hawaii's adults reported chronic drinking. Demographic variables that were found to be significantly associated to chronic drinking were sex, race, employment, and marital status.

(1) **Sex:** The percentage of males who were chronic drinkers was six times greater than the percentage of women who were chronic drinkers.

(2) **Race:** Hawaiians/Part-Hawaiians had the highest percentage of chronic drinkers.

(3) **Employment:** Self employed persons had the highest percentage of chronic drinkers.

(4) **Marital Status:** Those who were separated and persons who were divorced had the highest percentage.

Chronic drinking was not found to be significantly associated with island, age, education, or income.

Drinking and Driving

In 1988, 3.6% of Hawaii's adults reported driving after having too much to drink, one or more times during the past month. Demographic variables that were significantly related to drinking and driving were island, combined neighbor islands, sex, age, employment, and marital status.

(1) **Island:** The percentage of drinking and driving was higher on the combined neighbor islands than Oahu, with Maui and Hawaii having the highest percentage.

(2) **Sex:** The percentage of drinking and driving was five times higher for men than women.

(3) **Age:** Persons in the 18-24 and 35-44 year age groups had the highest percentage.

(4) **Employment:** Self employed persons, persons employed for wages, and students had the highest percentage.

(5) **Marital Status:** Members of unmarried couples and those who were separated had the highest percentage.

Drinking and driving was not found to be significantly associated with race, education, or income.

Cholesterol

Almost half (47.4%) of Hawaii's adult population reported that they had had their cholesterol tested. Twenty-eight percent of Hawaii's adults reported that they had been told their cholesterol level. However, only 12.6% of all adults in Hawaii were able to provide a value for their cholesterol level. Statistically significant differences by age and race were found in the percentage of people tested, the percentage of people told their level, and the percentage of people who knew their cholesterol level. In relation to sex, the only significant difference was in the proportion of adults who were told their cholesterol level (table 4).

(1) **Age:** As age increased, the percentage of people who reported cholesterol testing, the percentage of people who were told their cholesterol level, and the percentage of people who could provide a value for their cholesterol level all increased.

(2) **Race:** Hawaiians/Part-Hawaiians and Filipinos had the lowest percentage adults who had cholesterol testing, who were told their level, or who could cite a value for their cholesterol level.

(3) **Sex:** A greater percentage of males than females were told their cholesterol level.

No significant differences were found by island in the three cholesterol categories mentioned above. In addition, no significant differences were found by sex in the percentage of adults who reported that they had had their cholesterol tested, and the percentage who provided a value for their cholesterol level.

TABLE 1

NUMBER AND PERCENT OF ADULT HAWAII POPULATION AT INCREASED RISK FOR MORBIDITY AND MORTALITY FROM VARIOUS BEHAVIORAL RISK FACTORS FOR 1988

Risk Factors	Number (Estimated)	Percent (Estimated)
Seatbelt Nonuse [a/]	42,685	6.4
Hypertension [b/]	102,635	15.3
Sedentary Lifestyle [c/]	363,737	54.1
Obesity [d/]	130,134	19.4
Cigarette Smoking [e/]	156,120	23.2
Acute Drinking [f/]	131,803	19.6
Chronic Drinking [g/]	61,653	9.2
Drinking and Driving [h/]	24,219	3.6

[a/] **Seatbelt nonuse:** Sometimes, seldom or never use seatbelts.

[b/] **Hypertension:** Survey respondents were defined as hypertensive if: 1) they were told more than once that their blood pressure is high, 2) they were on medication at the time, or 3) they reported that their blood pressure is still high.

[c/] **Sedentary Lifestyle:** No physical activity or physical activity less than three times a week or less than 20 minutes per occasion.

[d/] **Obesity:** Twenty percent or more above "ideal weight". Ideal weight is defined as the "mid-value of a medium frame person from the 1959 Metropolitan Life Insurance Height/Weight tables.

[e/] **Cigarette Smoking:** Current regular smoker ("ever smoked 100 cigarettes and smokes now").

[f/] **Acute Drinking:** Five or more drinks on an occasion, one or more times during the past month.

[g/] **Chronic Drinking:** An average of two or more drinks per day during the past month.

[h/] **Drinking and Driving:** Driving after having too much to drink, one or more times during the past month.

TABLE 2

PREVALENCE OF VARIOUS BEHAVIORAL RISK FACTORS BY ISLAND STATE OF HAWAII, 1988

Island	N [a]	Seatbelt Nonuse (%) [b]	Hyper-tension (%)	Sedentary Lifestyle (%)	Obesity (%)	Smoking (%)	Acute Drinking (%)	Chronic Drinking (%)	Drink & Drive (%)
Hawaii	215	5.2	17.6	58.3	23.0	21.4	24.4	10.2	7.5
Kauai	216	13.1	24.2	56.3	31.6	20.8	18.2	8.2	2.1
Maui	216	13.8	17.5	55.4	25.7	26.6	28.4	14.3	6.4
Molokai/Lanai	215	5.4	20.9	53.8	21.4	21.0	16.2	5.4	3.2
Oahu	1003	5.8	14.4	53.5	18.0	23.3	18.4	8.8	2.9
Neighbor Islands	862	8.3	18.5	56.4	23.9	23.0	23.9	10.6	6.1
STATE	**1865**	**6.4**	**15.3**	**54.1**	**19.4**	**23.2**	**19.6**	**9.2**	**3.6**

[a] Unweighted sample size used as the denominator for each estimate.

[b] Percent weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 3

PREVALENCE OF VARIOUS BEHAVIORAL RISK FACTORS BY SELECTED DEMOGRAPHIC CHARACTERISTICS STATE OF HAWAII, 1988

Demographic Characteristic	N [a]	Seatbelt Nonuse (%) [b]	Hyper-tension (%)	Sedentary Lifestyle (%)	Obesity (%)	Smoking (%)	Acute Drinking (%)	Chronic Drinking (%)	Drink & Drive (%)
Sex									
Female	1026	3.7	14.8	59.1	18.0	20.3	9.4	2.4	1.2
Male	839	9.0	15.8	49.0	20.8	26.2	30.1	16.0	6.1
Age									
18-24	204	11.2	1.1	46.1	14.2	20.5	28.0	9.5	6.5
25-34	468	6.3	4.2	52.7	21.2	28.6	21.8	8.5	3.9
35-44	455	5.9	11.9	57.2	24.6	28.7	20.2	10.1	5.0
45-54	233	3.0	26.0	58.6	20.6	23.2	18.8	10.4	2.5
55-64	226	5.8	32.9	60.8	20.5	19.6	14.9	9.1	0.9
65+	279	4.5	34.8	52.5	12.6	11.0	7.0	7.5	0.8
Race									
Caucasian	667	6.9	12.0	39.9	17.4	24.8	23.6	9.9	4.7
Filipino	217	6.7	13.2	70.9	16.3	20.7	16.1	9.2	3.4
Hawaiian/ Pt. Hawaiian	338	5.3	19.5	59.9	42.7	31.7	25.9	11.6	4.5
Japanese	462	7.8	18.5	58.7	13.6	22.6	18.8	9.1	2.5
Others	181	3.3	13.7	49.7	13.2	15.1	10.2	5.3	2.6

[a] Unweighted sample size used as the denominator for each estimate.

[b] Percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 3 (cont'd.)

PREVALENCE OF VARIOUS BEHAVIORAL RISK FACTORS BY SELECTED DEMOGRAPHIC CHARACTERISTICS STATE OF HAWAII, 1988

Demographic Characteristic	N [a]	Seatbelt Nonuse (%) [b]	Hyper-tension (%)	Sedentary Lifestyle (%)	Obesity (%)	Smoking (%)	Acute Drinking (%)	Chronic Drinking (%)	Drink & Drive (%)
Education									
Through 8th Grade	136	7.0	26.2	60.1	19.1	12.2	3.3	1.6	0.1
Some High School	170	7.5	25.4	72.9	21.4	31.5	21.3	13.1	4.5
High Sch Grad	610	7.0	17.5	57.2	24.4	28.2	23.8	10.5	4.8
Some Tech Sch/ Tech Sch Grad	52	0.8	9.6	71.2	10.5	22.0	26.0	5.4	0.0
Some College	437	6.2	12.8	48.8	16.0	26.2	19.2	11.0	3.4
College Graduate	319	6.6	7.4	47.9	15.0	14.1	16.2	5.0	2.6
Post Graduate/ Prof Degree	137	2.7	14.9	37.6	19.2	9.2	17.6	9.4	4.6
Employment Status									
Empd for wages	1085	6.1	11.8	54.6	21.2	25.6	22.7	9.1	4.6
Self Employed	176	4.3	14.7	49.2	13.3	18.3	19.5	14.5	4.9
Unemployed	82	10.9	9.3	55.4	16.3	36.2	23.7	11.2	1.2
Homemaker	141	5.3	18.4	56.4	23.9	19.0	3.5	2.0	0.2
Student	62	10.2	1.7	54.3	8.6	22.0	25.3	6.8	4.1
Retired	316	6.5	37.2	52.5	17.6	14.8	10.8	10.8	0.8

[a] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1865 because of a response of "refused" or "unknown" for that demographic variable.

[b] Percent weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 3 (cont'd.)

PREVALENCE OF VARIOUS BEHAVIORAL RISK FACTORS BY SELECTED DEMOGRAPHIC CHARACTERISTICS STATE OF HAWAII, 1988

Demographic Characteristic	N [a]	Seatbelt Nonuse (%) [b]	Hyper-tension (%)	Sedentary Lifestyle (%)	Obesity (%)	Smoking (%)	Acute Drinking (%)	Chronic Drinking (%)	Drink & Drive (%)
Marital Status									
Married	1128	4.3	18.2	54.9	19.6	22.8	17.4	8.4	2.7
Divorced	163	7.7	16.4	56.5	16.3	31.8	20.2	13.8	4.0
Widowed	125	4.5	28.5	67.3	25.5	9.3	3.3	3.6	0.0
Separated	45	6.2	18.6	43.7	23.3	44.6	33.6	15.0	9.6
Never Married	369	11.4	4.9	49.1	17.8	22.7	27.3	10.6	5.1
Unmarried Couple	29	15.6	1.8	67.4	20.3	27.6	25.7	10.3	20.4
Household Income									
Less than $10,000	251	5.7	22.9	65.3	23.4	21.3	14.0	3.4	3.1
$10,000 < $15,000	242	9.4	15.3	56.2	18.1	23.3	21.2	10.5	6.2
$15,000 < $20,000	220	4.7	13.0	55.2	24.1	34.8	25.5	10.2	4.0
$20,000 < $25,000	206	7.4	13.7	49.8	23.8	22.9	17.7	9.5	2.2
$25,000 < $35,000	256	6.0	15.4	43.2	21.4	20.8	23.6	11.0	3.7
$35,000 < $50,000	249	4.0	11.7	53.9	17.9	23.1	20.1	9.5	5.7
Over $50,000	246	7.7	17.8	53.4	13.7	18.6	18.3	8.9	2.1

[a] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1865 because of a response of "refused" or "unknown" for that demographic variable.

[b] Percent weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 4

CHOLESTEROL AWARENESS
STATE OF HAWAII, 1988

Demographic Characteristic	Sample Size [a] (n)	Had Their Cholesterol Checked (%) [b]	Told Their Cholesterol Level (%)	Know Their Cholesterol Level (%)
Island				
Hawaii	215	44.2	26.1	12.2
Kauai	215	43.9	24.6	10.3
Maui	216	49.6	21.1	7.0
Molokai/Lanai	216	53.4	31.9	10.2
Oahu	1003	47.3	28.7	13.4
Sex				
Female	1026	44.8	24.8	10.6
Male	839	49.9	31.2	13.4
Age				
18-24	204	17.1	6.1	2.2
25-34	468	36.0	19.6	6.5
35-44	455	48.7	35.6	15.6
45-54	233	62.1	39.0	18.3
55-64	226	71.9	40.7	20.6
65+	279	72.8	42.8	22.7
Race				
Caucasian	667	53.0	34.5	18.9
Filipino	217	31.6	14.5	3.0
Hawaiian/ Part-Hawaiian	338	41.1	21.2	5.4
Japanese	462	50.8	32.1	15.8
Others	181	54.0	29.6	12.2
STATE	**1865**	**47.4**	**28.0**	**12.6**

[a] Unweighted sample size used as the denominator for each estimate.

[b] Percents weighted to be representative of the age, sex, and race distribution of Hawaii.

HAWAII STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

HAWAII STATE HEALTH PLANNING AND DEVELOPMENT AGENCY
Annual Summary of Acute, Long Term Care and Specialty Hospital Utilization by County, 1982 - 1988

A. The Agency

The Hawai'i State Health Planning and Development Agency (SHPDA) is an agency of state government administratively attached to the State Department of Health. Authorized by the National Health Planning and Resources Development Act, the Agency was established under state law in July, 1976 with amendments to Chapter 323D, Hawai'i Revised Statutes. In 1986, the U.S. Congress chose not to extend the Federal Health Planning Law. Act 270, of the Session Laws of Hawai'i (SLH), 1987, amended Chapter 323D of the Hawai'i Revised Statutes and appropriations for operations are now wholly provided through State funds.

B. Purpose of the Law

Hawai'i's health planning and resources development program was established to promote accessibility for all the people of the State to quality health care services at reasonable cost. The certificate of need program is one of the ways of achieving that purpose. Act 270, SLH 1987, made major amendments to the law, most of them for the purpose of simplifying the certificate of need process.

Statewide planning is another major activity of the Agency in achieving the purpose of the law. The Agency, in conjunction with the Hawai'i Statewide Health Coordinating Council (HSHCC), produces and promotes the implementation of the State of Hawai'i Health Services and Facilities Plan (HSFP). In addition to establishing plan guidelines/standards, the HSFP also sets forth projections for acute and long term care bed needs for the State of Hawai'i.

C. History

The State Comprehensive Health Planning Agency (the forerunner agency to SHPDA) collected daily inpatient census data on a monthly basis from all inpatient facilities throughout the State beginning in 1974. The census data were collected from each inpatient facility for each type of bed.

In 1979, SHPDA changed from a monthly to a Quarterly Utilization Report (QUR). Through the cooperation of the health facilities in the State, the data are compiled and stored at the SHPDA for future reference and analyses. The Agency collects information on the utilization of inpatient facilities in the State and prepares annual and quarterly reports. The inpatient data utilized in this report were obtained by SHPDA directly from each of the inpatient facilities in the State. Bed inventory data are from the SHPDA files.

D. Utilization Data Terms

1. Admissions

The number of admissions is defined as the number of inpatient admissions. A given person could be admitted more than once during a year. The number of admissions multiplied by the average length of stay produces the total number of patient days.

2. Average Length of Stay (ALOS)

The average length of stay is the average number of days patients remain in the facility per hospital stay. ALOS is computed by dividing the total patient days by the number of admissions.

Length of stay can be thought of as an indicator of either efficiency or seriousness of patient's illness. Where facilities are able to discharge patients in a shorter time, they might be thought of as being more efficient. However, in some instance where patients remain out of a hospital until their condition is more serious or where outpatient care is encouraged for less serious conditions, patients admitted may be required to stay longer.

In addition, in the event that long term care patients are occupying acute beds because they cannot find long term accommodations, this may tend to increase the acute length of stay- confusing the interpretation. It would be best if, when computing length of stay, waitlisted long term care patients could be omitted from the acute inpatient care data. This has not been done in these data.

3. Occupancy Rates (OCCUP %)

Occupancy rates can be computed by dividing the ADC by the number of licensed beds and multiplying by 100. This provides an idea of the proportion of bed capacity occupied on the average day. As with ADC, this will fluctuate from day to day and by type of bed and place.

4. Average Daily Census (ADC)

The average daily census provides the mean number of beds occupied during the year. The average daily census multiplied by 365 gives the total number of patient days per year. The average daily census divided by the bed capacity and multiplied by 100 gives the occupancy rate.

If a hospital's occupany rate is too high, it may not have adequate capacity to accept new patients. Also, some extra beds are always needed in order to allow for maintenance, etc. Usually, high occupancy in long term care beds is more acceptable, i.e., above 95%, since there is less daily fluctuation in daily census. In acute care, particularly where patients are admitted on a non-scheduled basis, e.g., OB, CCU, etc., the optimal occupancy can be lower in order to permit unforeseen admissions. For other types of acute beds, an occupancy of about 80-85% is acceptable because admissions can be scheduled if bed capacity is fully utilized on a given day.

In some instances, occupancy may run over 100% because of an overflow situation. This might occur if there are, for example, too many of a given type of patient who must be temporarily assigned to another bed type. Where occupancy rates are very high, this is an indication of an inadequate supply of that type of bed on a given island; where they are low, it is an indication of either an adequate supply or surplus of that type of bed on that island.

Although a facility's occupancy rate for licensed beds may run below 100% occupancy, that facility could run at or near 100% occupancy in terms of the number of staffed beds which were regularly maintained or set up and staffed ready for use. Differences in the licensed and staffed beds occupancy rates may be due to temporary closure of wards or rooms because of facility renovations, labor shortages and strikes.

TABLE 1
SHPDA RECOGNIZED ACUTE CARE BED CAPACITY
STATE OF HAWAI'I, 1988

	Medical/ Surgical	Critical Care[a]	Obstetric	Pediatric	Neonatal ICU[c]	Psych	Total
METROPOLITAN							
Kaiser	124	20	30	20	7		46
Kapiolani	68	22[b]	60	64	18		72
Kuakini	225	25	-	-			250
Queen's	394	37	25			50	506
St. Francis	230	22	-	4			256
Straub	136	23					159
Subtotal	1177	149	115	88	20	50	1594
SUBURBAN							
Castle	79	8	14	-		55	156
Kahuku	6	2	3				11
Wahiawa	50	5	14	-	-	-	69
Subtotal	135	15	31	-	-	55	236
O'AHU TOTAL	1312	64	146	88	20	105	1835
MILITARY							
Tripler	352		60	17		72	501
HAWAI'I COUNTY							
Hilo	91	11	20	14		20	156
Honoka'a	19	2	4	2		-	27
Kohala	4	-	-	-	-	-	4
Kona	31	6	8	-	-	8	53
Subtotal	145	19	32	16	-	28	240
MAUI COUNTY							
Maui Island							
Hana	4	-	-	-	-	-	4
Kula	2	-	-	-	-	-	2
Maui	104	8	18	5		10	145
Lana'i Island							
Lana'i	3	1	1	-	-	1	6
Moloka'i Island							
Moloka'i	4	-	4	-	-	-	8
Subtotal	117	9	23	5	-	11	165
KAUA'I COUNTY							
Mahelona	-	-	-	-	-	9	9
Kaua'i Vet.	18	2	4	-	-	-	24
G.N. Wilcox	64	8	9	-	-	-	81
Subtotal	82	10	13	-	-	9	114
N. I. TOTAL	344	38	68	21	-	48	519
STATE TOTAL	2008	202	274	126	20	225	2855

a. Includes coronary and intensive care units
b. Includes 6 Ped ICU, 6 Ped Intermediate Care and 10 Perinatal intensive care (PICU)
c. Neonatal isolettes

SOURCE: SHPDA, May, 1988

TABLE 2
SHPDA RECOGNIZED LONG TERM CARE BED CAPACITY
STATE OF HAWAI'I, 1988

	Skilled Nursing	Intermediate	SNF/ICF	Acute/SNF Swing	Total
O'AHU					
Ann Pearl	-	86	-	-	86
Arcadia	60	-	-	-	60
Beverly Manor	-	-	108	-	108
Convalescent Center	-	-	183	-	183
Crawford's	-	68	-	-	68
Hale Ho Aloha	-	85	-	-	85
Hale Malamalama	-	31	-	-	31
Hale Nani	-	-	232	-	232
Hawai'i Select Care	-	92	-	-	92
Island Nursing	-	-	42	-	42
Kahanaola	-	-	42	-	42
Kahuku	11	-	-	4	15
Kuakini	50	150	-	-	200
Leahi	92	38	-	-	130
Leeward	-	50	-	-	50
Maluhia	-	-	158	-	158
Maunalani	-	-	101	-	101
Nuuanu Hale	-	-	75	-	75
Oahu Care Facility	-	82	-	-	82
St. Francis	52	-	-	-	52
Wahiawa	-	-	93	-	93
Total O'ahu	265	682	1034	4	1985
HAWAI'I COUNTY					
Life Care Center	-	240	-	-	240
Hilo Hospital	36	84	-	-	120
Honoka'a	8	-	-	-	8
Ka'u	-	-	10	5	15
Kohala	-	-	18	4	22
Kona	-	-	22	-	22
Total Hawai'i County	44	324	50	9	427
MAUI COUNTY					
Hale Makua	-	124	120	-	244
Kula	-	-	95	-	95
Lana'i	-	-	8	-	8
Moloka'i	-	-	14	8	22
Total Maui County	-	124	237	8	369
KAUA'I COUNTY					
Hale Omao	-	30	-	-	30
Kaua'i Care Center	-	17	-	-	17
Kaua'i Veterans	-	-	15	5	20
Mahelona	-	-	61	6	67
G. N. Wilcox	-	-	80	-	80
Total Kaua'i County	-	47	156	11	214
STATE TOTAL	309	1177	1477	32	2995

SOURCE: SHPDA, May, 1988

TABLE 3
SHPDA RECOGNIZED SPECIALTY CARE BED CAPACITY
STATE OF HAWAI'I, 1988

	Psych	TB	MR	SNF/ICF MR	Hansen's Disease	Rehab	Children's Ortho	M/S	Total
Hale Mohalu	-	-	-	-	21	-	-	-	21
Hawaii State	239	-	-	-	-	-	-	-	239
Kahi Mohala	88	-	-	-	-	-	-	-	88
Kalaupapa	-	-	-	-	14	-	-	-	14
Kula	-	-	8	-	-	-	-	-	8
Leahi	-	21	-	-	-	-	-	5	26
Rehab. Hospital	-	-	-	-	-	100	-	-	100
Shriner's	-	-	-	-	-	-	40	-	40
Waimano	-	-	225	60	-	-	-	-	285
GRAND TOTAL	327	21	233	60	35	100	40	5	821

*Includes 20 ped. psych. beds

SOURCE: SHPDA, May, 1988

TABLE 4
NUMBER OF ADMISSIONS BY COUNTY, 1982 - 1988

	1982	1983	1984	1985	1986	1987	1988
LONG TERM CARE							
O'ahu	1572	1478	1373	1522	1526	1528	1615
Hawai'i	420	607	513	490	468	401	430
Kaua'i	131	178	247	254	233	312	282
Tri-Isle	375	311	473	309	337	312	416
Maui	348	282	446	281	289	283	292
Moloka'i	20	20	23	19	48	23	124
Lana'i	7	9	4	9	---	6	---
TOTAL ACUTE							
O'ahu	78155	78459	73955	61416	67499	91106	92930
Hawai'i	11526	10455	10328	10313	11006	10885	11076
Kaua'i	5400	5597	4697	4909	5204	5158	5152
Tri-Isle	7293	7820	7550	7835	7995	6677	8373
Maui	6866	7253	7007	7406	7626	6260	8181
Moloka'i	395	500	478	331	369	276	192
Lana'i	37	67	65	98	---	141	---
MEDICAL-SURGICAL							
O'ahu	51335	51853	47292	45222	43654	55665	57008
Hawai'i	7160	6017	6023	6038	6469	6234	5947
Kaua'i	3187	3310	2942	3117	3554	3342	3296
Tri-Isle	4765	5148	5009	5386	5433	4396	5751
Maui	4478	4752	4572	5024	5130	4163	5635
Moloka'i	253	351	387	283	303	189	116
Lana'i	34	45	50	79	---	44	---
CRITICAL CARE (CCU/ICU)							
O'ahu	5522	5585	5686	5878	6085	6544	5791
Hawai'i	1085	1093	1304	1272	1443	1504	1640
Kaua'i	631	698	588	611	563	656	700
Maui	575	714	545	563	540	529	553
OBSTETRICS							
O'ahu	13203	14018	13653	12734	11216	18334	18971
Hawai'i	2079	2025	2061	1924	2022	2129	2612
Kaua'i	1033	1028	921	891	912	990	967
Tri-Isle	1290	1419	1390	1238	1235	1024	1292
Maui	1182	1306	1288	1173	1169	931	1216
Moloka'i	105	100	91	48	66	87	76
Lana'i	3	13	11	17	---	6	---
PEDIATRICS							
O'ahu	6357	5023	4416	4209	3381	5951	6392
Hawai'i	739	837	661	633	617	576	493
Kaua'i	361	341	...	...	...	...	...
Maui	452	414	399	439	486	412	498
PSYCHIATRIC							
O'ahu	1738	2000	2556	3565	3851	4088	4381
Hawai'i	463	483	434	446	455	442	384
Kaua'i	188	220	246	290	185	270	189
Maui	174	176	207	209	247	235	279

Note: 1987 and 1988 data includes Tripler
... = Category not applicable. --- = Data not available.
SHPDA: May, 1989 0038E

TABLE 5
AVERAGE LENGTH OF STAY BY COUNTY, 1982 - 1988

	1982	1983	1984	1985	1986	1987	1988
LONG TERM CARE							
O'ahu	388	409	452	412	419	444	434
Hawai'i	337	233	274	287	296	359	324
Kaua'i	336	264	194	195	101	201	236
Tri-Isle	331	407	264	412	372	403	301
Maui	338	426	263	427	418	417	410
Moloka'i	203	214	195	260	95	200	45
Lana'i	323	216	696	276	---	496	---
TOTAL ACUTE							
O'ahu	6.6	6.3	5.9	6.5	6.8	7.0	6.8
Hawai'i	4.1	4.2	4.3	4.3	4.5	4.9	5.2
Kaua'i	5.5	4.6	4.4	4.4	3.6	4.3	4.3
Tri-Isle	4.9	4.9	4.7	4.7	4.6	4.7	4.8
Maui	5.1	3.5	4.9	4.8	3.5	4.8	4.9
Moloka'i	2.7	3.7	2.9	3.1	3.5	3.3	2.8
Lana'i	2.9	4.2	4.3	2.9	---	2.8	---
MEDICAL SURGICAL							
O'ahu	7.6	7.1	6.7	7.2	7.6	7.9	7.7
Hawai'i	4.6	5.2	5.5	5.3	5.5	6.3	7.2
Kaua'i	7.8	6.0	5.3	5.2	4.0	5.2	5.1
Tri-Isle	6.0	5.9	5.7	5.6	5.7	5.7	5.6
Maui	6.1	6.0	5.9	5.8	5.8	5.9	5.7
Moloka'i	3.5	4.6	3.2	3.3	4.0	4.1	3.9
Lana'i	3.0	5.3	4.9	3.1	---	3.0	---
CRITICAL CARE (ICU/CCU)							
O'ahu	7.2	7.7	5.0	5.8	5.9	6.2	8.5
Hawai'i	2.9	2.7	2.6	2.5	2.5	2.4	2.5
Kaua'i	2.1	1.5	1.8	2.0	1.8	1.9	2.2
Maui	3.2	2.6	2.8	3.1	3.3	2.8	3.2
OBSTETRIC							
O'ahu	3.2	3.1	3.2	3.2	3.3	3.4	3.2
Hawai'i	2.3	2.2	2.2	2.4	2.6	2.5	2.4
Kaua'i	2.6	2.0	2.4	2.5	2.4	2.5	2.4
Tri-Isle	2.0	2.0	2.0	1.9	1.7	1.8	1.8
Maui	2.1	2.1	2.0	1.9	1.7	1.9	1.8
Moloka'i	1.5	1.5	1.4	1.4	1.4	1.7	1.2
Lana'i	1.3	1.4	2.1	2.1	---	1.5	---
PEDIATRIC							
O'ahu	3.9	3.8	3.9	3.9	4.0	4.7	4.0
Hawai'i	2.8	2.8	2.7	2.7	2.8	2.8	2.9
Kaua'i	2.6	2.2	...	...	...	...	...
Maui	3.9	3.7	3.5	3.0	2.7	2.3	3.2
PSYCHIATRIC							
O'ahu	11.4	10.0	11.9	12.3	13.8	13.6	12.6
Hawai'i	9.1	7.8	6.3	6.0	7.1	7.8	9.3
Kaua'i	6.4	6.9	6.4	5.6	7.0	5.9	8.6
Maui	6.7	6.3	7.3	6.8	6.8	6.0	7.2

Note: 1987 and 1988 data includes Tripler
... = Category not applicable. --- = Data not available.
SHPDA: May, 1989 0038E

TABLE 6
OCCUPANCY RATES BY COUNTY, 1982 - 1988

	1982	1983	1984	1985	1986	1987	1988
LONG TERM CARE							
O'ahu	96.0	95.4	97.3	97.2	90.5	93.7	91.4
Hawai'i	82.9	94.6	95.2	95.3	93.8	96.7	92.3
Kaua'i	99.8	94.5	96.3	91.1	83.0	92.1	86.9
Tri-Isle	94.9	96.8	92.6	97.0	97.3	95.6	95.3
Maui	95.4	97.5	95.0	97.0	97.6	95.7	97.0
Moloka'i	92.5	97.6	55.8	96.8	89.3	90.1	70.1
Lana'i	77.5	66.6	95.1	84.9	---	100.0	---
TOTAL ACUTE							
O'ahu	79.1	76.5	70.8	67.7	67.3	74.4	75.1
Hawai'i	49.5	48.2	48.3	48.3	53.8	60.7	67.8
Kaua'i	57.4	49.5	43.8	50.0	44.4	51.5	53.4
Tri-Isle	59.1	62.3	58.2	57.8	61.5	64.6	69.8
Maui	65.5	67.3	60.4	62.6	65.4	70.1	72.6
Moloka'i	19.3	34.0	41.4	17.3	25.0	15.8	18.4
Lana'i	5.0	13.3	12.7	12.9	---	12.9	---
MEDICAL-SURGICAL							
O'ahu	83.0	77.2	69.8	68.2	68.8	72.3	73.3
Hawai'i	63.9	60.8	62.4	62.3	65.1	74.6	80.3
Kaua'i	64.1	54.2	45.8	54.5	47.6	56.1	55.2
Tri-Isle	76.8	81.8	65.2	65.0	67.7	72.4	78.9
Maui	82.5	86.0	66.1	70.5	72.3	77.7	80.7
Moloka'i	37.5	55.0	67.4	21.5	25.0	17.7	30.7
Lana'i	10.0	23.3	22.5	22.2	---	24.1	---
CRITICAL CARE (ICU/CCU)							
O'ahu	80.0	73.5	63.6	61.1	63.6	68.8	83.4
Hawai'i	41.7	39.0	44.9	41.3	50.0	52.9	58.3
Kaua'i	36.0	28.0	29.5	33.4	30.0	35.8	46.0
Maui	62.3	63.8	51.9	52.9	27.8	67.1	60.7
OBSTETRICS							
O'ahu	76.8	81.4	80.7	75.2	68.4	83.0	86.2
Hawai'i	35.9	33.6	33.7	35.3	36.8	43.5	50.8
Kaua'i	46.0	46.3	38.5	37.9	37.5	37.7	49.6
Tri-Isle	27.9	30.0	32.3	27.6	26.1	26.1	27.3
Maui	32.5	34.1	39.0	33.6	33.3	35.2	34.2
Moloka'i	10.0	10.0	8.9	4.7	...	10.2	6.1
Lana'i	1.0	5.0	6.3	9.9	---	4.9	---
PEDIATRICS							
O'ahu	47.8	60.0	54.8	52.4	47.7	73.7	61.9
Hawai'i	16.7	19.0	14.2	14.4	31.3	27.2	24.5
Kaua'i	43.3	35.0	...	...	...	...	...
Tri-Isle	35.5	31.4	76.2	70.7	80.0	68.5	86.5
Maui	40.5	35.0	76.2	70.7	80.0	68.5	86.5
Moloka'i	5.0	10.0	...	...	...	...	...
PSYCHIATRIC							
O'ahu	90.5	78.3	78.9	62.1	75.1	86.4	74.9
Hawai'i	39.6	49.0	35.5	35.0	32.1	47.4	48.9
Kaua'i	36.7	45.6	48.0	49.2	44.4	48.1	49.4
Maui	22.4	22.1	41.3	39.1	50.0	49.4	55.3

Note: 1987 and 1988 data includes Tripler
... = Category not applicable. --- = Data not available.
SHPDA: May, 1989 0038E

TABLE 7
AVERAGE DAILY CENSUS BY COUNTY, 1982 - 1988

	1982	1983	1984	1985	1986	1987	1988
LONG TERM CARE							
O'ahu	1670	1657	1696	1720	1753	1863	1992
Hawai'i	388	388	384	385	379	394	381
Kaua'i	126	129	131	136	127	178	184
Tri-Isle	342	348	341	349	343	344	343
Maui	323	330	321	328	330	323	328
Moloka'i	12	12	12	14	13	13	15
Lana'i	7	6	8	7	---	8	---
TOTAL ACUTE							
O'ahu	1418	1358	1280	1284	1295	1717	1742
Hawai'i	130	123	124	122	135	146	159
Kaua'i	83	71	56	59	52	60	61
Tri-Isle	100	106	98	101	104	111	111
Maui	95	99	93	97	100	108	110
Moloka'i	3	6	4	3	4	2	1
Lana'i	1	1	1	1	---	1	---
MEDICAL-SURGICAL							
O'ahu	1071	1012	913	889	910	1206	1195
Hawai'i	91	87	90	88	97	108	117
Kaua'i	66	55	43	45	39	47	46
Tri-Isle	80	85	78	83	84	92	90
Maui	76	79	74	79	81	89	89
Moloka'i	3	5	3	3	3	2	1
Lana'i	1	1	1	1	---	1	---
CRITICAL CARE (ICU/CCU)							
O'ahu	110	119	95	94	98	110	135
Hawai'i	9	9	9	9	10	10	11
Kaua'i	4	3	3	3	3	3	4
Maui	5	6	4	5	5	5	5
OBSTETRICS							
O'ahu	116	121	118	111	100	171	168
Hawai'i	13	13	12	13	14	15	17
Kaua'i	8	8	6	6	6	6	6
Maui	7	8	7	6	6	6	6
PEDIATRICS							
O'ahu	68	53	47	45	42	77	69
Hawai'i	6	7	5	5	5	4	4
Kaua'i	3	3	...	...	...	...	...
Maui	5	5	4	4	4	3	4
PSYCHIATRIC							
O'ahu	55	55	83	120	145	153	151
Hawai'i	12	11	7	7	9	9	10
Kaua'i	4	7	4	4	4	4	4
Maui	4	7	4	4	5	5	6

Note: 1987 and 1988 data includes Tripler
... = Category not applicable. --- = Data not available.
SHPDA: May, 1989 0038E

COMMUNICABLE DISEASE DIVISION

EPIDEMIOLOGY BRANCH
INFECTIOUS DISEASE SUMMARY

VACCINE-PREVENTABLE DISEASES. There were 17 cases of measles reported during 1988, representing a 143 percent increase over the seven (7) cases reported in 1987. However, only three (3) of the 1988 cases were indigenous, with the remaining 14 cases imported from Japan, the Philippine Islands, and the Marshall Islands.

Thirty-three cases of rubella were reported in 1988, reflecting a 52% decrease from the 69 infections reported during 1987. Twenty-eight rubella infections were imported; all except one of these cases were introduced by Japanese tourists. The remaining five (5) indigenous cases occurred in residents working in tourist-related industries, including the airlines and the hotel industry.

There were 50 pertussis cases reported during 1988. This was a significant decrease of 80% from the 245 cases reported in 1987 and was an indicator that the current level of pertussis activity has tapered off for the first time in five years. An average of 56 pertussis cases was reported during each year of the 1980's compared with only 1.7 cases during the previous decade.

The 507 cases of influenza reported in 1988 represented only a portion of the total influenza infections occurring, since the vast majority of cases were not reported. More important, the 507 cases indicated that Hawaii experienced widespread influenza activity, consisting of three strains: A/Taiwan/186 (H1N1), A/Leningrad/360/86 (H3N2), and B/Ann Arbor/1/86 during the 1987/88 season.

PERINATAL HEPATITIS B. In 1988, a total of 735 persons (170 pregnant women, 45 other index cases, 257 household contacts, and 263 infants) was registered in the Hepatitis B Perinatal Program (HBPP). Of the 170 pregnant women registered, 160 were infected, two had evidence of past infection, and eight were of uncertain hepatitis B status. The distribution by birthplace of those 170 women is shown in Figure 1. Of the 45 other index cases registered, seven were infected, seven had evidence of past infection or vaccination, three had never been infected or vaccinated, and 28 were of uncertain hepatitis B status. The distribution of the status of the 257 household contacts registered is shown in Figure 2. Sixty-one (61) household contacts completed the hepatitis B vaccination series. Of the 263 infants registered, all initiated and/or completed the vaccination series.

In 1988, 49% of the infants registered by the HBPP were delivered at Kapiolani Medical Center, and 27% at five other Oahu hospitals. Thirteen percent were delivered at outer island facilities and 5.3% were foreign born. These figures are similar to the distributions in 1986, the first full year of the HBPP.

ZOONOTIC DISEASES. There were 499 culture-confirmed cases of salmonellosis reported by the Department of Health Laboratory in 1988, an increase of 5% over the 475 culture-confirmed cases reported in 1987. The 1988 total included S. typhimurium cases associated with a large outbreak at a political fund-raising dinner in Hilo. In 1988, five possible human rabies exposure cases were investigated. The locations of exposure included Pakistan and Thailand. The attacking animals included two monkeys, two cats and a dog. Services rendered included evaluation of exposure, recommendations for prophylaxis and animal testing. During 1988, four reported possible cases of Lyme Disease were investigated. All were negative for the disease. A dog was confirmed to have Lyme Disease by the Department of Agriculture. It was imported from New London, Connecticut.

Leptospirosis. The Epidemiology Branch embarked on a multi-faceted research program on leptospirosis in 1988. There were two active surveillance programs for increased case detection on Kauai and Hawaii. In 1988, 65 cases of leptospirosis were diagnosed in Hawaii (Figure 3), the largest number of cases ever recorded in the State. This represents 260% more cases than 1987, when 25 cases were reported. There were two fatalities in 1988; one resided on Oahu and the other on Hawaii. Warning signs have been posted throughout the State near streams, waterfalls, and hiking trails. The branch has also contracted with a University of Hawaii researcher for development on a rapid screening ELISA diagnostic test for leptospirosis.

FOOD POISONING. The branch handled 439 food and water complaints, which represented half of all 1988 investigations (876) and doubled the figures over 1986 (188) and 1987 (215). Ciguatera fish poisoning reports decreased slightly to 33 in 1988 from 40 in 1987. Scombroid fish poisoning reports remained stable with six cases compared with 13 in 1987 and 8 in 1986. Two cases of botulism occurred; one was linked with homemade Hawaiian chili pepper water; the other from an unidentified source. Both patients survived.

TABLE 1
NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES
STATE OF HAWAII, 1984, 1985, 1986, 1987, and 1988

	1984		1985		1986		1987		1988	
Population	1,038,700		1,053,900		1,062,300		1,082,502		1,098,200	
Disease	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Total	8,495	30	11,358	42	9,762	39	8,152	71	9,657	62
AIDS	13	8	32	26	58	27	79	41	114	43
Amebiasis	15	-	6	-	10	-	-	-	1	-
Brucellosis	-	-	-	-	1	-	-	-	-	-
Chancroid	-	-	-	-	-	-	-	-	-	-
Chickenpox	834	-	1,494	-	1,386	-	1,484	-	840	-
Conjunctivitis, infectious	48	-	157	-	185	-	52	-	64	-
Diphtheria	-	-	-	-	-	-	1	-	-	-
Gonorrhea	2,664	-	2,162	-	1,619	-	1,159	-	875	-
Hansen's disease a/	105	5	31	-	37	-	25	-	20	-
Hepatitis A	33	1	109	-	14	-	37	-	21	1
Hepatitis B	74	4	135	4	77	2	68	8	95	2
Hepatitis non-A, non-B	12	-	10	-	6	-	2	-	7	-
Hepatitis unspecified	11	1	6	3	4	-	3	5	4	1
Influenza	328	-	1,009	-	316	3	332	5	660	-
Leptospirosis b/	13	-	13	1	15	-	24	-	67	-
Lymphogranuloma venereum	-	-	-	-	-	-	-	-	-	-
Malaria c/	5	-	17	-	1	-	3	1	10	-
Measles (Rubeola)	142	-	31	-	37	-	5	-	17	-
Meningitis, aseptic & viral	108	-	137	-	192	-	104	-	134	-
Meningitis, haemophilus	30	-	21	-	27	-	22	-	27	-
Meningitis, meningococcal	3	-	9	-	3	-	11	-	9	-
Mononucleosis, infectious	30	-	58	-	38	-	9	-	39	-
Mumps	22	-	19	-	24	-	12	-	24	-
Pertussis	102	-	24	-	51	-	245	-	50	-
Poliomyelitis	-	-	-	-	-	-	-	-	-	-
Rubella	5	-	44	-	8	-	32	-	33	-
Rubella, congenital	-	-	-	-	-	-	-	-	-	-
Salmonellosis	380	-	337	-	428	1	475	-	508	-
Scarlet fever & other strep infections	2,973	-	5,036	-	4,892	-	3,620	-	5,671	-
Shigellosis	165	-	138	-	81	-	79	-	61	-
Syphilis, primary & secondary	92	-	88	-	38	-	28	-	47	-
Syphilis, early latent	54	-	30	-	10	-	21	-	51	-
Syphilis, late & late latent	4	-	5	-	8	-	15	-	24	-
Tetanus	1	-	3	-	-	-	1	-	-	-
Trichinosis	1	-	1	-	7	-	-	-	-	-
Tuberculosis	218	11	189	8	180	6	195	11	171	15
Typhoid fever	5	-	5	-	8	-	8	-	6	-
Typhus, murine	5	-	2	-	1	-	2	-	7	-

a/ 1984 includes reinstated cases. 1985-1988 excludes reinstated cases.
b/ Includes previously unreported cases.
c/ Malaria acquired outside the State.

TABLE 2

1988 COMMUNICABLE DISEASE SUMMARY

DISEASE	TOTAL NO. OF CASES STATEWIDE	RATE/ 100,000 POP.*	HAWAII	OAHU	KAUAI	LANAI	MAUI	MOLOKAI	MILITARY ACTIVE DUTY
AIDS	114	10.4	19	82	7	–	6	–	–
Amebiasis	1	.1	–	1	–	–	–	–	1
Brucellosis	–	–	–	–	–	–	–	–	–
Chancroid	2	.2	–	–	–	–	–	–	2
Chickenpox	840	76.5	56	655	2	–	4	–	123
Conjunctivitis (infectious)	64	5.8	32	12	4	–	–	–	16
Diphtheria	–	–	–	–	–	–	–	–	–
Gonorrhea	875	79.7	28	517	–	–	3	–	327**
Hansen's disease ***	20	1.8	1	16	1	–	2	–	–
Hepatitis A	21	1.9	1	18	–	–	1	–	1
Hepatitis B	95	8.7	3	61	6	–	16	1	8
Hepatitis non-A, non-B	7	.6	1	2	–	–	–	–	3
Hepatitis unspecified	4	.4	2	1	–	–	–	–	–
Influenza	660	60.1	31	623	1	–	–	1	4
Leptospirosis	67	6.1	33	8	24	–	–	–	2
Lymphogranuloma venereum	–	–	–	–	–	–	–	–	–
Malaria (all imported)	10	.9	–	2	1	–	–	–	7
Measles (rubeola)	17	1.5	1	16	–	–	–	–	–
Meningitis, aseptic & viral	134	12.2	20	76	11	–	–	–	27
Meningitis, haemophilus	27	2.5	4	18	2	–	2	–	1
Meningitis, meningococcal	9	.8	3	6	–	–	–	–	–
Mononucleosis, infectious	39	3.6	11	3	–	–	–	–	25
Mumps	24	2.2	–	18	–	–	–	–	6
Pertussis	50	4.6	2	46	–	–	2	–	–
Poliomyelitis	–	–	–	–	–	–	–	–	–
Rubella	33	3.0	–	32	–	–	–	–	1
Rubella, congenital	–	–	–	–	–	–	–	–	–
Salmonellosis	508	46.3	80	379	10	–	6	–	33
Scarlet fever & other strep. infections	5,671	516.4	753	2,575	–	–	–	24	2,319
Shigellosis	61	5.6	1	54	2	–	1	–	3
Syphilis, primary & secondary	47	4.3	–	27	–	–	–	–	–
Syphilis, early latent	51	4.6	–	26	1	–	–	–	24**
Syphilis, late & late latent	24	2.2	–	13	–	–	–	–	11**
Tetanus	–	–	–	–	–	–	–	–	–
Trichinosis	–	–	–	–	–	–	–	–	–
Tuberculosis	171	15.6	18	104	5	–	16	–	28
Typhoid fever	6	.5	–	4	–	–	1	1	–
Typhus, murine	7	.6	–	–	–	–	7	–	–

*Number of cases per 100,000 population (1,098,200)
**Reported cases by military facilities
***New and transfer-in cases

Figure 1

HEPATITIS B CARRIER PREGNANT WOMEN

By Place of Birth for 1988

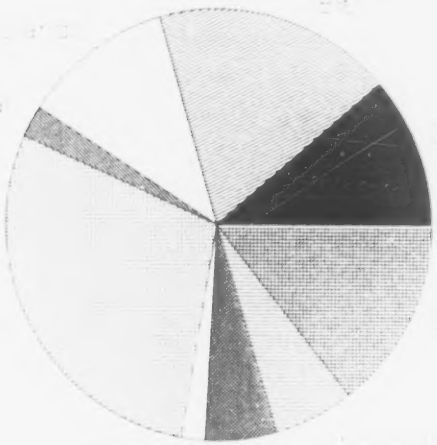
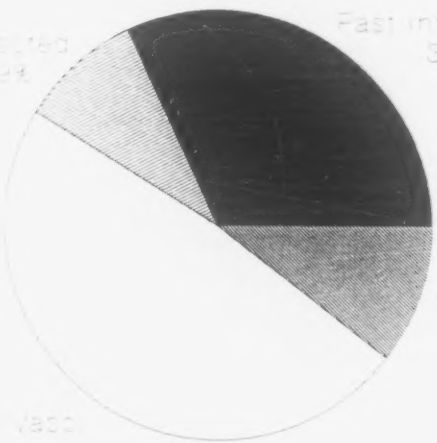


Figure 2

HOUSEHOLD CONTACTS OF CARRIERS

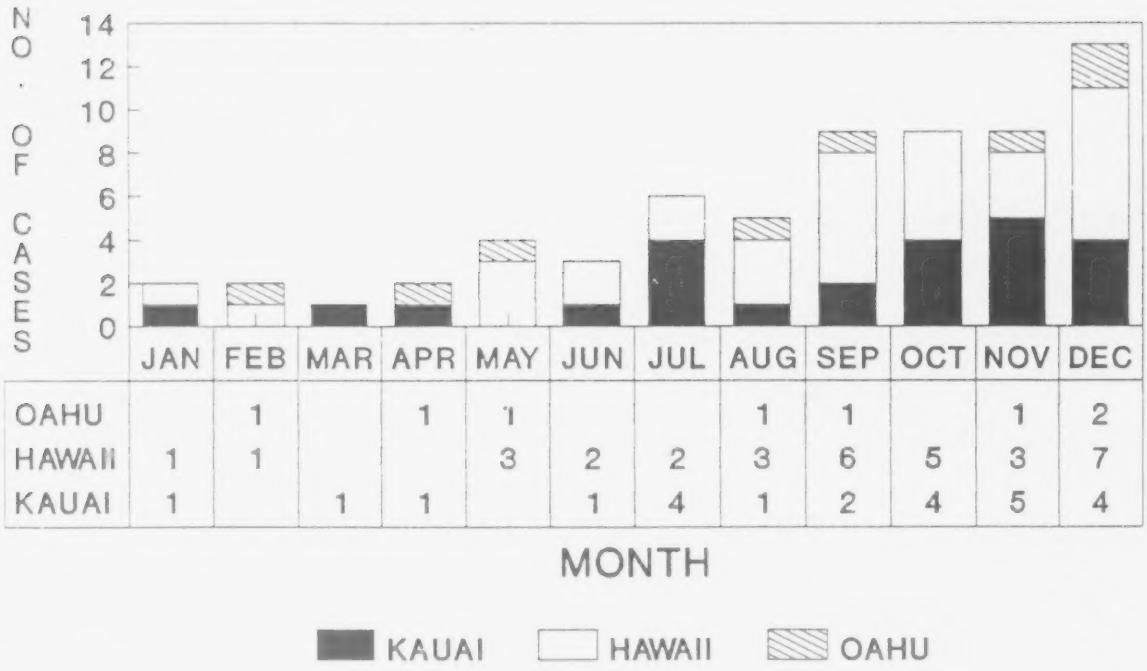
Hepatitis B Status



Total n=257

Figure 3

LEPTOSPIROSIS IN HAWAII: 1988
BY MONTH OF ONSET
2 FATALITIES



65 CASES

SEXUALLY TRANSMITTED DISEASES

There were 875 gonorrhea cases reported for calendar year 1988. This is the eighth consecutive year Hawaii has recorded a decrease in the total number of gonorrhea cases reported. The gonorrhea case rate of 79.7 cases per 100,000 population is lower than the case rate reported in 1970 and far exceeds the National 1990 Objective of 280 cases per 100,000 population. The continued large decrease in male gonorrhea cases (primarily male homosexual gonorrhea cases) has resulted in a leveling off of the proportion of male to female gonorrhea cases. Fifty-nine (59) percent of the total gonorrhea cases reported in 1988 were in men.

There were 56 Penicillinase-producing Neisseria gonorrhoeae (PPNG) reported in 1988. Almost all of these cases were either directly imported by travelers from the Far East or were epidemiologically linked to the Far East, indicating little endemic spread of PPNG in Hawaii.

There were 98 infectious syphilis cases reported in 1988. Although this represents a doubling of the number of cases reported in 1987 (49 cases), the case rate per 100,000 population (4.2 cases per 100,000) is still below the National 1990's Objective for primary and secondary syphilis of 7 cases per 100,000. Due to the relatively low number of syphilis cases, any increase in the number of syphilis cases will reflect a significant percentage increase.

Hawaii reported 93 new AIDS cases in Calendar Year 1988. The cumulative total number of AIDS cases reported in Hawaii through 1988 is 321 AIDS cases of which 211 are known to have died.

TABLE 1

SEXUALLY TRANSMITTED DISEASE CASES REPORTED TO THE DEPARTMENT OF HEALTH BY DIAGNOSIS AND SOURCE OF REPORT

STATE OF HAWAII, 1988

Type of Disease		Total	Private Physicians, Hospitals and Institutions	Public Clinics, Hospitals and Institutions	Military
Total Cases	Number	999	320	296	383
	Percent	100	32	30	38
Syphilis:					
Primary and Secondary		47	13	14	20
Early Latent		51	15	12	24
Late and Late Latent		24	7	6	11
Gonorrhea		875	284	264	327
Other Venereal Diseases		--	1	--	1

TABLE 2

TOTAL PRIMARY AND SECONDARY SYPHILIS CASES BY AGE

STATE OF HAWAII 1983 - 1988

Age in Years	1983	1984	1985	1986	1987	1988
Total All Ages	99	92	88	38	28	47
0 - 14	--	--	--	--	--	--
15 - 19	4	7	4	2	--	4
20 - 24	37	25	16	7	3	16
25 - 29	17	23	23	9	9	10
30 - 34	19	11	16	6	5	9
35 - 39	7	8	16	4	3	4
40 - 44	7	10	5	3	5	2
45 - 49	3	4	4	1	2	--
50 and Over	3	4	2	4	1	--
Unknown	2	--	2	2	--	2

TABLE 3

TOTAL GONORRHEA CASES BY AGE

STATE OF HAWAII 1983 - 1988

Age in Years	1983	1984	1985	1986	1987	1988
Total All Ages	2886	2664	2162	1619	1159	875
0 - 14	9	12	6	8	7	3
15 - 19	359	337	377	272	166	158
20 - 24	1056	1032	842	606	387	334
25 - 29	649	586	419	339	262	170
30 - 34	351	288	198	176	135	95
35 - 39	143	162	109	83	68	45
40 - 44	64	66	52	39	40	22
45 - 49	37	23	13	11	11	2
50 and Over	37	41	26	11	14	8
Unknown	181	117	120	74	69	38

TABLE 4

NUMBER AND RATE PER 100,000 POPULATION OF TOTAL REPORTED GONORRHEA CASES
STATE OF HAWAII, 1970 - 1988

YEAR	15 - 19 YEARS			20 - 24 YEARS			25 - 29 YEARS			ALL AGES		
	CASES	POPULATION 1/	RATE	CASES	POPULATION 1/	RATE	CASES	POPULATION 1/	RATE	CASES	POPULATION 1/	RATE
1970	264	71,993	366.7	712	81,732	871.1	223	59,583	374.3	1,494	769,913	194.0
1971	383	75,600	506.6	888	87,900	1,010.2	326	62,500	521.6	1,975	801,000	246.6
1972	365	78,800	463.2	925	91,000	1,016.5	363	68,200	532.3	2,080	828,000	251.2
1973	482	81,500	591.4	987	94,000	1,050.0	488	72,200	675.9	2,408	851,000	283.0
1974	576	83,200	692.3	1,209	96,200	1,256.8	549	76,400	718.6	2,923	867,000	337.1
1975	649	84,700	766.2	1,279	98,800	1,294.5	646	81,000	797.5	3,126	884,000	353.6
1976	719	86,200	834.1	1,360	100,300	1,355.9	798	86,100	926.8	3,591	902,000	398.1
1977	733	86,400	848.4	1,633	101,800	1,604.1	940	87,400	1,075.5	4,256	916,000	464.6
1978	510	86,400	590.3	1,269	103,700	1,223.7	737	89,600	822.5	3,409	929,000	367.0
1979	711	86,900	818.2	1,714	105,200	1,629.3	908	92,700	979.5	4,373	950,000	460.3
1980	620	86,446	717.2	1,758	105,682	1,663.5	870	95,287	913.0	4,383	964,691	454.3
1981	548	87,900	623.4	1,761	107,500	1,638.1	892	96,900	920.5	4,289	980,900	437.3
1982	472	89,300	528.6	1,441	109,200	1,319.6	808	98,400	821.1	3,706	996,700	371.8
1983	359	91,700	391.5	1,056	112,100	942.0	649	101,100	641.9	2,886	1,023,200	282.1
1984	337	93,000	362.4	1,032	113,800	906.9	586	102,600	571.2	2,664	1,038,730	256.5
1985	377	94,400	399.4	842	115,500	729.0	419	104,100	402.5	2,162	1,053,900	205.1
1986	272	95,100	286.0	606	116,400	520.6	339	104,900	323.2	1,619	1,062,300	152.4
1987	166	96,900	171.3	387	118,600	326.3	262	106,900	245.1	1,159	1,082,500	107.1
1988	158	98,300	160.7	334	120,300	277.6	170	108,400	156.8	875	1,098,200	79.7

Population data is an estimated total resident population based on figures taken from the 1980 census, which includes Armed Forces and their dependents in Hawaii, and residents temporarily absent, and excludes visitors present.

1/ Data shown only for computational convenience and not intended to imply accuracy beyond three significant figures.

The reported rates of Gonorrhea by selected age groups in Hawaii, according to their numerical ranking order are: 1) 20 - 24 years; 2) 25 - 29 years; and 3) 15 - 19 years.

TABLE 5

HAWAII RESIDENT GONORRHEA (GC) MORBIDITY BY YEAR (1974 - 1988),
CASE RATE PER 100,000 POPULATION, BY SEX, AND RESISTANCE TO PENICILLIN

YEAR	POPULATION[a]	TOTAL GC	RATE GC	# FEMALE GC	# MALE GC	% MALE GC	TOTAL PPNG[b]
1974	867,000	2,923	337.1	1,176	1,747	60%	-
1975	884,000	3,126	353.6	1,209	1,917	61%	-
1976	902,000	3,591	398.1	1,285	2,306	64%	10
1977	916,000	4,256	464.6	1,533	2,723	64%	22
1978	929,000	3,409	367.0	1,164	2,245	66%	26
1979	950,000	4,373	460.3	1,400	2,973	68%	63
1980	964,691	4,383	454.3	1,381	3,002	68%	162
1981	980,900	4,289	437.3	1,259	3,030	71%	184
1982	996,700	3,706	371.8	1,157	2,549	69%	99
1983	1,023,200	2,886	282.1	1,014	1,872	65%	93
1984	1,038,730	2,664	256.5	920	1,744	65%	113
1985	1,053,900	2,162	205.1	872	1,290	60%	110
1986	1,062,300	1,619	152.4	684	935	58%	95
1987	1,082,500	1,159	107.1	505	654	56%	78
1988	1,098,200	875	79.7	356	519	59%	56

a/ Source: Hawaii State Department of Planning and Economic Development, "The Population of Hawaii, 1980: Final Census Results" Statistical Report 143, March 18, 1981.

b/ Abbreviation for Penicillinase-producing Neisseria gonorrhoea, the penicillin-resistant form of gonorrhea.

TABLE 6

HAWAII INFECTIOUS SYPHILIS MORBIDITY TREND
BY YEAR (1976 - 1988) AND SEX

YEAR	P & S[a]	EL[b]	TOTAL	# FEMALES	# MALES	% MALES
1976	99	58	157	22	135	86%
1977	46	37	83	13	70	84%
1978	51	34	85	11	74	87%
1979	106	69	175	12	163	93%
1980	131	74	205	7	198	97%
1981	75	47	122	6	116	95%
1982	120	66	186	9	177	95%
1983	99	47	146	15	131	90%
1984	92	54	146	28	118	81%
1985	88	30	118	25	93	79%
1986	38	10	48	10	38	79%
1987	28	21	49	16	33	67%
1988	47	51	98	31	67	68%

a/ P & S - Primary and secondary stage of syphilis are the infectious stages of syphilis when the lesions are present.

b/ Early Latent stage of syphilis is an early stage of syphilis under one year's duration.

TABLE 7

HAWAII ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)
REPORTED BY YEAR, SEX, AND NUMBER OF KNOWN DEATHS
AS OF MAY 1, 1989**
1983 - 1988

YEAR	TOTAL AIDS	# MALES	# FEMALES	KNOWN DEATHS
1981	1	0	1	1
1982	3	3	0	3
1983	5	5	0	5
1984	20	19	1	18
1985	40	40	0	39
1986	72*	67	5	56*
1987	87	84	3	59
1988	93*	89*	4	34*
TOTAL	321	307	14	211

* 1 Pediatric case included

** 1988 Statistical Report Data retrospectively updated to include cases reported late by year of diagnosis.

Source: AIDS Surveillance Program, Department of Health

Hansen's Disease in Hawaii
1988

Hawaii continues to have the highest incidence and prevalence rates for Hansen's disease within the United States. This is primarily a reflection of the high rate of immigration from countries with a high prevalence of Hansen's disease. The majority of newly diagnosed cases of Hansen's disease in Hawaii are in those born in these countries.

In 1988, of the 20 people newly diagnosed as having Hansen's disease, four were Hawaii-born. Of these four born in the State, two had known contact with individuals who had acquired their infection prior to coming to Hawaii and two had known contact with another Hawaii-born patient. Thus there is still transmission of this infection within the State although this is very uncommon and is limited to those with close contact with an untreated patient.

The remaining 16 cases were foreign-born (Tables 6 and 9). Of these, 12 (60% of the total, 75% of the foreign-born) came from the Philippines, 2 from the Federated States of Micronesia, 1 from American Samoa, and 1 from India.

Of the new cases, 3 had early (Indeterminate) disease while 8 were classified as paucibacillary (TT, BT) and 9 were classified as multibacillary (BB, BL, LL). Among the 9 multibacillary, 7 had borderline lepromatous disease and two lepromatous disease.

Table 5 shows the age distribution at the time of registration in Hawaii. Cases were broadly distributed in different age groups. There was again a preponderance of young adult, with half of the cases occuring in those between 20 and 39 years of age. The median age was 31 years. This reflects a younger age distribution than 1987, when the median age was 42 years. For the eight years from 1981 through 1988, 142 of the 294 cases (48.3%) were younger than 40 years of age and 152 cases (51.7%) were 40 years of age or older. Table 8 and Figure 1 illustrate the age-specific incidence rates of Hansen's disease in 1988. Although the numbers are small, the incidence was much higher in those in the 65 to 74 year age group. This may reflect the changes in the immune system which accompany aging. The oldest newly diagnosed patient was 72 years old while the youngest was 6 years of age.

Two additional patients who had been removed from the Registry when they left the State were again registered upon return to the State. This left a total of 571 cases on the Registry as of December 31, 1988. This represents a decrease of 9.8% from 1987 and 12.6% from 1986. This decrease is a result of removing from the Registry patients who have been off of treatment for many years and are felt to be cured as well as patients who refuse medical follow-up.

474 of the 571 patients (83%) are on the outpatient Registry and receive care through the Hansen's Disease Community Program. All new cases are assigned to this Registry. Primary care for Hansen's disease is provided by private physicians. Care is also provided by Public Health Nurses and various community providers. The Program, one of 11 Regional Hansen's Disease Centers in the U.S. under the Regional Hansen's Disease Program of the Gillis W. Long Hansen's Disease Center in Carville, Louisiana, coordinates provision of care and services. Direct care is provided by the Program's nurses, social worker, paramedical assistants, and physician. Close contacts of newly diagnosed patients are examined periodically for evidence of Hansen's disease. Much effort is directed toward educating patients, their family members, members of the medical community, and the general public.

93 patients remain on the Kalaupapa Registry and 4 patients on the Hale Mohalu Registry. These individuals retain the right to reside in these facilities. In addition, there is an inpatient facility at Kalaupapa for those residents requiring more medical attention. Finally, Hale Mohalu at Leahi provides more intensive inpatient care for those Kalaupapa patients who require it. Hale Mohalu also provides short term inpatient care for those patients under the Hansen's Disease Community Program who require hospitalization for acute complications of Hansen's disease such as acute inflammatory reactions.

TABLE 1

TOTAL HANSEN'S DISEASE PATIENTS BY REGISTER STATUS AND YEAR
STATE OF HAWAII 1981-1988

Register Status	1981	1982	1983	1984	1985	1986	1987	1988
Total Cases on Register January 1.....	474	506	550	578	661	651	653	633
New cases added during the year..	49	49	41	43	31	37	24	20
Formerly diagnosed cases returned to register.....	4	11	5	58	4	6	2	5
Other additions (registry correction).....	-	-	-	3	7	1	-	-
Removed during year.....	21	16	18	21	52	42	46	87
Deaths.....	6	4	6	15	10	4	6	13
Left the State.....	1	12	12	5	39	6	14	21
Discharged from further surveillance.....	14	-	-	-	-	26	25	34
Other deductions (registry correction).....	-	-	-	1	3	6	1	19
Total cases on register December 31.....	506	550	578	661	651	653	633	571

TABLE 2

HANSEN'S DISEASE PATIENTS, KALAUPAPA REGISTRY
STATE OF HAWAII 1981-1988

Register Status	1981	1982	1983	1984	1985	1986	1987	1988
Total patients-Kalaupapa Registry January 1.....	119	115	112	110	101	101	99	97
Deaths.....	4	3	2	8	0	2	2	4
Transfer from Registry.....	-	-	-	-	-	-	-	-
Transfer to Registry.....	-	-	-	-	-	-	-	-
Left the State.....	-	-	-	-	-	-	-	-
Other (Registry correction-deduction).....	-	-	-	1	-	-	-	-
Total patients - Kalaupapa Registry - December 31.....	115	112	110	101	101	99	97	93
Reactivated cases..... (criteria: positive smears or biopsy)	6	6	6	2	-	-	-	1

TABLE 3

TOTAL CASES OF HANSEN'S DISEASE BY REGISTRY AND YEAR
STATE OF HAWAII, 1981 - 1988

Year	1981	1982	1983	1984	1985	1986	1987	1988
Total Cases on Registry 12/31	506	550	578	661	651	653	633	571
HD Comm. Program	385	432	462	555	546	549	532	474
Kalaupapa	115	112	110	101	100	99	97	93
Hale Mohalu	6	6	6	5	5	5	4	4

TABLE 4

NEW CASES OF HANSEN'S DISEASE BY ISLAND OF RESIDENCE AND YEAR
STATE OF HAWAII, 1981-1988

	1981	1982	1983	1984	1985	1986	1987	1988	TOTAL (%)
ALL ISLANDS	49	49	41	43	31	37	24	20	294 (100)
OAHU	35	40	37	33	28	28	17	16	234 (79.6)
HAWAII	6	7	3	1	2	5	4	1	29 (9.9)
MAUI	6	1	-	3	-	2	1	2	15 (5.1)
KAUAI	2	1	1	4	-	2	2	1	13 (4.4)
MOLOKAI	-	-	-	1	1	-	-	-	2 (0.7)
LANAI	-	-	-	1	-	-	-		1 (0.3)

TABLE 5

NEW CASES OF HANSEN'S DISEASE BY AGE GROUP AND YEAR STATE OF HAWAII, 1981 - 1988

AGE IN YEARS	1981	1982	1983	1984	1985	1986	1987	1988	TOTAL
ALL AGES	49	49	41	43	31	37	24	20	294
0- 9	1	1	-	-	-	1	-	1	4
10-19	6	12	2	5	6	5	6	3	45
20-29	11	10	9	6	5	7	6	5	59
30-39	4	8	1	7	2	4	3	5	34
40-49	5	4	9	1	8	5	2	-	34
50-59	10	4	8	7	5	5	6	2	47
60-69	7	5	6	12	2	2	-	2	36
70- and over	5	5	6	5	3	8	1	2	35

Overall median age for all years = 31 yrs.

FIGURE 1

AGE-SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII, 1988

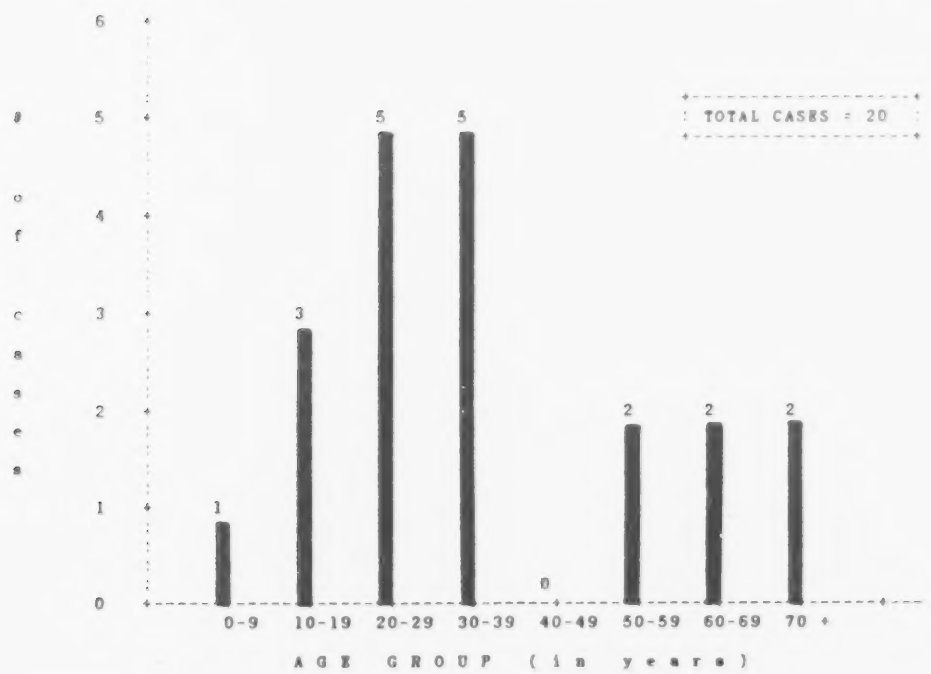


TABLE 6

AGE-SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII, 1988

AGE GROUP	NO. OF CASES	POPULATION*	RATE PER 100,000
0-14	1	226,000	0.4
15-24	5	192,000	2.6
25-34	6	180,000	3.3
35-44	2	111,000	1.8
45-54	1	94,000	1.1
55-64	2	85,000	2.4
65-74	3	49,000	6.1
75+	0	27,000	-
ALL	20	964,000	2.1

*Source: Hawaii State Department of Planning and Economic Development, The State of Hawaii Data Book 1988, (November 1988), Table 19.

FIGURE 2

AGE-SPECIFIC INCIDENCE RATE OF HANSEN'S DISEASE IN HAWAII, 1988 (PER 100,000)

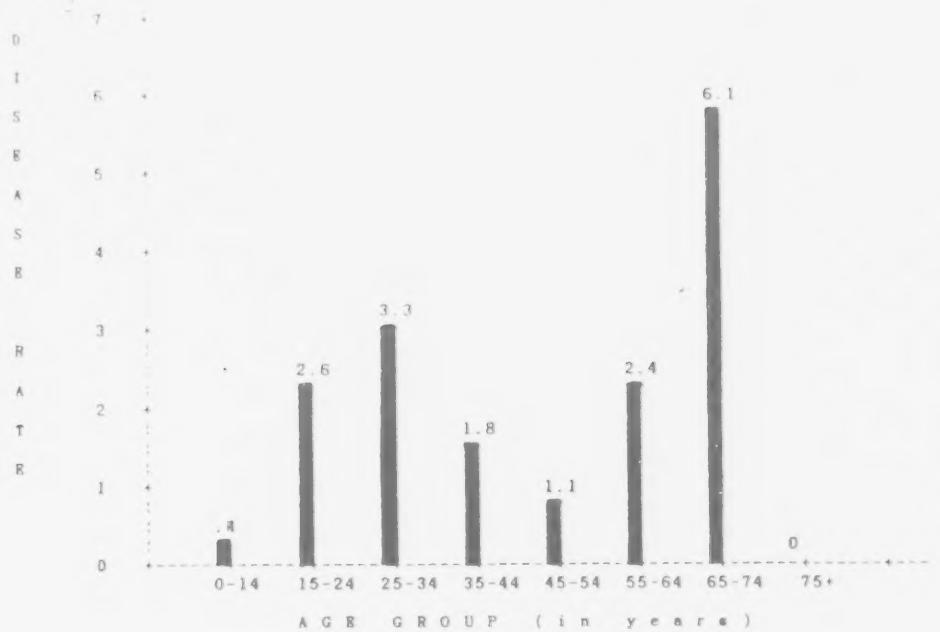


TABLE 7

NEW CASES OF HANSEN'S DISEASE BY PLACE OF BIRTH AND YEAR OF REGISTRATION
STATE OF HAWAII, 1981-1988

	TOTAL	%	1981	1982	1983	1984	1985	1986	1987	1988
HAWAII	31	(10.5)	9	2	4	2	2	3	5	4
SAMOA	34	(11.6)	6	5	8	5	3	4	2	1
FEDERATED STATES OF MICRONESIA	12	(4.1)	1	4	2	2	-	-	1	2
OTHER PACIFIC ISLANDS	6	(2.0)	-	1a/	-	-	a/ 3d/d/	-	c/ 2d/	-
PHILIPPINES	193	(65.6)	33	35	21	29	20	29	14	12
VIETNAM	2	(0.7)	-	1	-	-	1	-	-	-
U.S. MAINLAND	5	(1.7)	-	-	2	3	-	-	-	-
OTHER	11	(3.7)	-	1e/	4e/	2i/ f/g/h/	2h/ k/	1b/ j/	-	1e/
ALL	294	(100)	49	49	41	43	31	37	24	20

a/Tonga
b/Cambodia
c/Canada
d/Marshall Islands
e/India
f/Laos
g/Portugal
h/China
i/Japan
j/Australia
k/not available

TABLE 8

INCIDENCE OF HANSEN'S DISEASE BY ISLAND OF RESIDENCE, 1988

ISLAND	1980 POPULATION*	# OF CASES	RATE PER 100,000
ALL ISLANDS	964,691	20	2.1**
OAHU	762,534	16	2.1
HAWAII	92,053	1	1.1
MAUI	62,823	2	3.2
KAUAI	38,856	1	2.6
MOLOKAI	6,049	-	-
LANAI	2,119	-	-
NIIHAU	226	-	-

*Source: Hawaii State Department of Planning and Economic Development, The State of Hawaii Data Book 1988, (November 1988), Table 4. Total includes: 226 Niihau, 31 Northwestern Hawaiian Islands (Honolulu County) not included in island totals

** Excludes Niihau, Kure

TABLE 9

INCIDENCE OF HANSEN'S DISEASE IN HAWAII, BY PLACE OF BIRTH
1988

	NO OF CASES	POPULATION*	RATE PER 100,000
HAWAII-BORN	4	557,990	0.7
FOREIGN-BORN	16	137,016	11.7
OTHER U.S.	-	269,685	-
ALL GROUPS	20	964,691	2.1

*Source: Hawaii State Department of Planning and Economic Development, The State of Hawaii Data Book 1988, (November 1988), Table 26.

TABLE 10

NEW CASES OF HANSEN'S DISEASE BY PLACE OF RESIDENCE AT ONSET OF SYMPTOMS
STATE OF HAWAII, 1988

RESIDENCE	NO. OF CASES
HAWAII	19
OTHER U.S.	0
PHILIPPINES	0
SAMOA	0
OTHER	1
TOTAL	20

TABLE 11

SEX-SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII, 1988

	NO. OF CASES	POPULATION*	RATE PER 100,000
MALES	13	552,000	2.4
FEMALES	7	531,000	1.3
ALL	20	1,083,000	1.8

*Source: Hawaii State Department of Planning and Economic Development, The State of Hawaii Data Book 1988, (November 1988), Table 19.

Annual Summary 1988

There were 171 new cases of tuberculosis in 1988, a decrease of 12.3% from the 195 cases reported the previous year. As shown in Table 3, the majority of the cases occur in the foreign-born population, a large proportion of which originated in countries with very high prevalence rates for tuberculosis. In 1988, 127 of the 171 cases (74.3%) were in foreign-born individuals. 88 cases (51.5% of the total, 69.3% of the foreign-born) occurred in individuals born in the Philippines. The next largest foreign-born group was from Korea, followed by China (including the People's Republic of China, the Republic of China, and Hong Kong) and Japan.

The incidence rate for the State was 15.8 per 100,000 population as compared to 18.0 per 100,000 in 1987. The 1988 rate for the United States is approximately 9.2 per 100,000 (official statistics are not yet available.) The incidence was 82.6 per 100,000 for the foreign-born population of Hawaii. In contrast, the rates were 4.6 per 100,000 for the population born in Hawaii and 5.0 per 100,000 for those born in other parts of the U.S.

As shown in Table 4, 18.1% of the cases were extrapulmonary. This represents an increase from the 14.9% extrapulmonary in 1987, though the absolute number increased only from 29 cases to 31 cases. This is consistent with national trends which have shown a relatively constant number of extrapulmonary cases even when the number of pulmonary cases have declined. There were two cases of miliary disease, two cases of meningeal tuberculosis, and two cases of peritoneal disease. Nationally there has been an association between certain types of extrapulmonary tuberculosis and infection with the Human Immunodeficiency Virus. Assessment of this association in the State is in progress.

The age distribution of cases is shown in Table 7. There was only one case in a child below the age of 10 years. This child was born overseas and developed disease within two months of moving to Hawaii. Absence of infection in young children indicates a very low level of transmission of disease within the State and is a mark of effective tuberculosis control.

The Tuberculosis Branch continues to provide comprehensive services in terms of case detection and treatment, preventive therapy, and epidemiologic monitoring and analysis. Over 60,000 tuberculin skin tests were administered by personnel of the Tuberculosis Branch and the Public Health Nursing Branch. Although skin testing has been the primary diagnostic test for all patient groups for the past few years and the number of survey X-rays decreased by 6% from 1987 (after decreases of 28% and 24% in 1986 and 1987 respectively,) many clients require chest X-ray for evaluation. Over 22,000 chest X-ray examinations were performed in 1988.

As shown in Table 5, 49.7% of new cases were reported by the Department of Health Tuberculosis Control Program. 83 cases (48.5%) were detected through one of the screening programs of the Tuberculosis Branch. This includes 27 immigrants who entered on Class A Visas and 13 immigrants who entered on Class B Visas. 54 of the 127 foreign-born cases (42.5%) had been in the State more than 5 years at the time of diagnosis. Because of our high incidence in the foreign-born population, the Branch continues to direct special attention to this population including operation of an Outreach Program. This program is directed toward the Filipino and Korean communities, although others are also served. Services include bilingual paramedical assistants for cultural and language assistance and provision of directly observed therapy to insure compliance among those patients who are felt to be at high risk for non-compliance or who require special attention because of drug-resistant disease.

Tuberculosis remains a significant problem for the State, primarily because of our high proportion of foreign-born residents (approximately 14% of the population in 1987.) National data reveal that Honolulu has the highest proportion of cases occurring in foreign-born individuals of any major metropolitan area in the country. Our tuberculosis rate will continue to be determined to a great extent by immigration policies and patterns. The epidemic of the Acquired Immunodeficieny Syndrome and the increasing proportion of the population in the elderly age group will likewise have a significant influence on the incidence of tuberculosis. In spite of the persistence and to some extent the resurgence of this ancient disease, the Tuberculosis Control Program continues to provide efficient and effective services in terms of screening activities, case treatment, preventive therapy, and epidemiologic analysis.

TABLE 1

X-RAY SURVEY ACTIVITIES FOR TUBERCULOSIS BY COUNTY
STATE OF HAWAII, 1988

Geographic Area	Total Screening Films Taken	X-rays Suspicious of Tuberculosis					
		Total		Tuberculosis Diagnosed Current Disease		Tuberculosis Not Confirmed b/	
		Number	Rate a/	Number	Rate a/	Number	Rate a/
State of Hawaii.	16,047						
(County of Honolulu) . . . . . (Lanakila Health Center)	13,467	122	9.1	9	0.7	113	8.4
Routine Survey	5,644	39	6.9	0	0	39	6.9
Medical Referrals.	287	5	17.4	0	0	5	17.4
Other Agency Referrals	6,544	67	10.2	9	1.4	58	8.9
Tuberculin Testing Program . . . PHN	931	9	9.7	0	0	9	9.7
Extension of Stay of . . . . . Non Immigrant Visas	0	0	0	0	0	0	0
LOPD Discharge Cases	61	2	32.8	0	0	2	32.8
County of Hawaii	1,672	40	23.9	0	0	40	23.9
County of Maui	908	167	183.9	0	0	167	183.9
County of Kauai	N/A	0	0	0	0	0	0

a/ per 1,000 survey film
b/ includes inactives and non-tuberculosis disease

TABLE 2

TUBERCULOSIS CASES REPORTED BY GEOGRAPHIC AREA OF RESIDENCE
STATE OF HAWAII, 1988

Geographic Area of Residence	TUBERCULOSIS CASES REPORTED					
	1988		1987		Population*	
	Number	Rate a/	Number	Rate a/	Number	Percent
State of Hawaii	171	15.8	195	18.0	1,082,504	100.0
County of Honolulu	132	15.9	164	19.8	829,288	76.6
City of Honolulu	82	21.1	102	26.2	388,936	35.9
Rest of Oahu	50	11.4	62	14.1	440,352	40.7
County of Hawaii	18	15.6	9	7.8	115,202	10.6
County of Maui b/	16	17.7	19	21.0	90,305	8.3
County of Kauai	5	10.5	3	6.3	47,709	4.4

a/ per 100,000 total population
b/ includes Kalawao County
* 7/1/87 Population figure

TABLE 3

TUBERCULOSIS CASES BY PLACE OF BIRTH AND LENGTH OF RESIDENCE
AND NUMBER OF PERSONS ADMITTED TO HAWAII WITH PERMANENT VISAS
STATE OF HAWAII, 1988

Birthplace or Time in Hawaii	1988			1987				
	Number	Percent	Rate a/	Number	Percent	Rate a/	Percent	Population*
Total	171	100.0	15.8	195	100.0	18.0	100.0	1,082,502
Foreign Born b/	127	74.3	82.6	150	76.9	97.6	14.2	153,715
1 year or less	47	27.5	-	61	31.3	-		
over 1 year - 2 years	6	3.5	-	11	5.6	-		
over 2 years - 5 years	14	8.2	-	14	7.2	-		
over 5 years	54	31.6	-	60	30.8	-		
unknown time in State	6	3.5	-	4	2.05	-		
Mainland Born	14	8.2	5.0	13	6.7	4.7	25.8	279,286
Hawaii Born	30	17.5	4.6	32	16.4	4.9	60.0	649,501
Birthplace Unknown	-	-	-	-	-	-		
U.S. Born Rate (Hawaii & Mainland)	44	25.7	4.7	45	23.1	4.8	85.8	928,787
U.S. National Average Rate	-	-	-	-	-	9.3		
Number of Persons Admitted to Hawaii w/ Permanent Visas c/	4420	-	-	5397	-	-		

a/ Rate - Cases per 100,000 total civilian population; rate for foreign-born, mainland-born, and Hawaii-born are estimates.
b/ Foreign-born includes people coming to Hawaii from both American and Western Samoa.
c/ Persons admitted to Hawaii with permanent visas include only individuals whose port of entry is Honolulu.
* 7/1/87 population figure.

TABLE 4

TUBERCULOSIS CASES BY LOCATION OF DISEASE
AND COUNTY OF RESIDENCE, STATE OF HAWAII 1988

Location of Disease	State of Hawaii		COUNTY OF RESIDENCE							
			Honolulu		Hawaii		Maui*		Kauai	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total.	171	100.0	132	100.0	18	100.0	16	100.0	5	100.0
Pulmonary.	140	81.9	113	85.6	11	61.1	14	87.5	2	40.0
Extrapulmonary										
Pleural.	9	5.3	8	6.1	1	5.5	-	-	-	-
Lymphatic.	-	-	-	-	-	-	-	-	-	-
Cervical	6	3.5	5	3.8	1	5.5	-	-	-	-
Intrathoracic. . . .	-	-	-	-	-	-	-	-	-	-
Other Lymphatic. . .	2	1.2	1	0.8	1	5.5	-	-	-	-
Unknown.	-	-	-	-	-	-	-	-	-	-
Bone and/or Joint. . .	2	1.2	1	0.8	-	-	-	-	1	20.0
Genitourinary.	1	0.6	-	-	1	5.5	-	-	-	-
Miliary.	2	1.2	1	0.8	-	-	1	6.3	-	-
Meningeal.	2	1.2	-	-	-	-	1	6.3	1	20.0
Peritoneal	2	1.2	-	-	1	5.5	-	-	1	20.0
Other.	5	2.9	3	2.3	2	11.1	-	-	-	-
Site Not Stated.	-	-	-	-	-	-	-	-	-	-

*Includes Kalawao County

TABLE 5

TUBERCULOSIS CASES BY SOURCE OF REPORT AND COUNTY OF RESIDENCE
STATE OF HAWAII, 1988

Source of Report	State of Hawaii		COUNTY OF RESIDENCE							
			Honolulu		Hawaii		Maui*		Kauai	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total.	171	100.0	132	100.00	18	100.0	16	100.0	5	100.0
Health Department.	85	49.7	67	50.8	6	33.3	11	68.8	1	20.0
Private Physician.	49	28.7	36	27.3	10	55.6	1	6.3	2	40.0
Tuberculosis Hospital or OPD . .	3	1.8	1	.8	-	-	2	12.5	-	-
General Hospital or OPD.	13	7.6	9	6.8	1	5.6	1	6.3	2	40.0
Tripler Army Hospital or VA. . .	17	9.9	17	12.9	-	-	-	-	-	-
Death Certificate.	-	-	-	-	-	-	-	-	-	-
Other.	4	2.3	2	1.5	1	5.6	1	6.3	-	-

*Includes Kalawao County

TABLE 6

TUBERCULOSIS CASES BY REASON FOR EXAMINATION AND COUNTY OF RESIDENCE
STATE OF HAWAII, 1988

Reasons for Examination	State of Hawaii		COUNTY OF RESIDENCE							
			Honolulu		Hawaii		Maui*		Kauai	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	171	100.0	132	100.0	18	100.0	16	100.0	5	100.0
Health Department Survey	37	21.6	33	25.0	2	11.1	2	12.5	-	-
Contact & Source Investigation	6	3.5	5	3.8	1	5.6	-	-	-	-
Positive Reactor or Converter	-	-	-	-	-	-	-	-	-	-
Extension of Stay, Non-Immigrant Visa	-	-	-	-	-	-	-	-	-	-
Aliens with Waiver of Excludability for Tuberculosis	27	15.8	20	15.2	-	-	7	43.8	-	-
Aliens with Tuberculosis Not Considered Active	13	7.6	11	8.3	-	-	1	6.3	1	20.0
Review of Other Visa Films & Evaluation of Foreign-born	-	-	-	-	-	-	-	-	-	-
Symptoms or Illness	77	45.0	55	41.7	12	66.7	6	37.5	4	80.0
General Hospital & PMD X-ray Findings	-	-	-	-	-	-	-	-	-	-
Death Certificate	-	-	-	-	-	-	-	-	-	-
Other	11	6.4	8	6.1	3	16.7	-	-	-	-

*Includes Kalawao County

TABLE 7

TUBERCULOSIS CASES BY AGE, RACE, AND SEX
STATE OF HAWAII, 1988

Age Group	ALL RACES			Caucasian		Hawaiian and part Hawaiian		Chinese		Filipino		Japanese		Korean		South East Asia a/		Others b/	
	Total	Male	Female	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Total	171	101	70	6	5	4	1	9	3	54	42	10	8	9	7	3	1	6	3
0 - 4	1	0	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
5 - 9	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 - 19	6	3	3	-	1	-	-	-	-	2	2	-	-	1	-	-	-	-	-
20 - 29	21	11	10	-	1	1	1	1	-	6	5	-	-	-	1	1	-	2	2
30 - 39	32	19	13	-	-	1	-	2	-	10	9	-	-	2	3	-	-	4	1
40 - 49	14	8	6	-	1	-	-	-	1	5	4	1	-	1	-	1	-	-	-
50 - 59	21	10	11	1	-	1	-	-	-	7	8	1	1	-	1	-	1	-	-
60 - 69	28	17	11	-	-	1	-	3	2	8	8	2	1	2	-	1	-	-	-
70 and over	48	33	15	5	2	-	-	3	-	16	6	6	5	3	2	-	-	-	-

a/ Vietnamese, Malaysian
b/ Black - 4, Lebanese - 1, Spanish - 1, Marshallese - 1, Micronesian - 1, Japanese/ Filipino - 1

TABLE 8

TUBERCULOSIS CASES BY PLACE OF BIRTH
AND LENGTH OF TIME IN HAWAII
STATE OF HAWAII, 1988

	Total	Philippines	Korea	China	Japan	Vietnam	Malaysia	Lebanon	Nigeria	Germany	Russia	Costa Rica	Marshall Island	Micronesia
Foreign Born	127	88	16	6	5	3	2	1	1	1	1	1	1	1
1 year or less	47	35	5	-	1	2	2	-	1	-	-	-	1	-
Over 1 year - 2 years	6	4	1	-	-	-	-	-	-	-	-	-	-	1
Over 2 years - 5 years	14	11	3	-	-	-	-	-	-	-	-	-	-	-
Over 5 years	54	34	6	5	4	1	-	1	-	1	1	1	-	-
Unknown	6	4	1	1	-	-	-	-	-	-	-	-	-	-
Mainland-Born	14	-	-	-	-	-	-	-	-	-	-	-	-	-
Hawaii-Born	30	-	-	-	-	-	-	-	-	-	-	-	-	-

Total Foreign-Mainland
Hawaii-Born 171

DENTAL HEALTH DIVISION

DENTAL HEALTH DIVISION

SUMMARY 1988

The Dental Health Division is responsible for conducting programs for the prevention and control of dental diseases. In addition to planning and surveillance activities, programs are conducted aimed at preventing tooth decay and the treatment of oral diseases among select groups in our community.

Target groups for treatment services include the homeless, long-term care residents, school-age children, community placed developmentally disabled and mental health clients, low income families and individuals and refugees. Services are available at the Department's regional mental health centers on Oahu, Waimano Training School & Hospital, Hawaii State Hospital, Kalaupapa Settlement and throughout the Community Hospitals System.

Preventive and educational services are offered through the Dental Hygiene Branch in public schools Statewide. These services are offered in cooperation with the State Department of Education.

The Dental Health Division field staff includes 6 dentists, 19 dental hygienists and 6 dental assistants.

Table 1 reflects clinical activities for both the Dental Hygiene and Hospital & Community Dental Services Branches.

TABLE 1

SUMMARY OF DENTAL HEALTH SERVICES

STATE OF HAWAII, FISCAL YEAR 1987 - 1988

TYPE OF SERVICES	NUMBER SERVED
Prevention and Detection	
Number of School Children Receiving Topical Fluoride Applications	68,076
Number of School Children Referred to Private Dentists	106,800
Number of School Children Receiving Dental Health Education	78,425
Treatment	
Number of Persons Treated in Institutions	733
Number of Persons Treated in Community-based Dental Clinics	1,028
Number of Persons Treated in the Community Hospitals System	500

ENVIRONMENTAL PROTECTION
AND
HEALTH SERVICES DIVISION

SUMMARY

The Pollution Investigation and Enforcement Branch of the Environmental Protection and Health Services Division is responsible for preserving and improving the quality of the environment throughout the State. Monitoring and enforcement programs are the principle vehicles through which pollution control rules are implemented in the fields of air; water, including all non-potable coastal and fresh waters, and solid waste.

The branch is involved in the following activities:

1. Determination of violations and enforcement of pollution control rules.

2. Monitoring of ambient conditions with air and water quality standards as control measures.

3. Inspection of conditions and operating procedures at landfills and sewer treatment plants.

4. Investigation of complaints by the public and conducting special studies in critical areas of environmental concern.

TABLE 1
SUMMARY OF AIR QUALITY DATA
STATE OF HAWAII, 1988
(24-Hour Sampling)

Sampling Stations	Micrograms Per Cubic Meter (ug/m^3)							
	Total Suspended Particulates				Sulfur Dioxide			
	No. of Samples	Annual Minimum	Annual Maximum	Arith. Average	No. of Samples	Annual Minimum	Annual Maximum	Arith. Average
Barbers Point - Oahu a/	56	10	48	24	60	<5	19	<5
Downtown, Honolulu - Oahu	60	12	45	26	50	<5	5	<5
Pearl City - Oahu a/	40	7	28	16	...	...	...	...
Liliha - Oahu	61	17	44	29	...	...	...	...
Waimanalo - Oahu	60	16	82	29	...	...	...	...
Kihei - Maui a/ b/	32	17	48	27	30	<5	5	<5
Lahaina - Maui a/ b/	22	9	34	19	...	...	...	...
Lihue - Kauai a/	47	8	30	17	...	...	...	...

a/ Particulate data from PM_{10} samplers (measuring inhalable particulates of less than 10 μ).

b/ Kihei represents eight (8) months of data, Lahaina represents six (6) months of data.

Source: Hawaii State Department of Health,
Pollution Investigation and Enforcement Branch, records

FIGURE 1
TRENDS OF TOTAL SUSPENDED PARTICULATES
AND SO_X IN THE AMBIENT AIR

Date	TSP ug/m3	SO_X ug/m3
1978	29	18
1979	32	22
1980	37	18
1981	40	19
1982	29	11
1983	26	2.7
1984	25	2.3
1985	24	2.5
1986	25	2.6
1987	26	2.7
1988	26	2.5

Sampling is conducted approximately 46 ft. above ground on the roof of the State Health Department building, 1250 Punchbowl Street, Honolulu, Hawaii.

Primary and secondary National Ambient air quality standards have been promulgated by the federal government. Primary standards are designed to prevent adverse effects on public health, while secondary standards are designed to prevent adverse effects on public welfare, including the values, and soiling and deterioration of materials. The standards for total suspended particulates (TSP) and sulfur oxides (SO_X) for the annual mean values are as follows:

	TSP(ug/m3)	SO_X(ug/m3)
Primary standard	75	80
Secondary standard	60	

TABLE 2
WATER QUALITY ON PUBLIC BEACHES: 1988

Beaches	Number of Samples	*Fecal Coliform Density Geometric Means (MPN/100 ml)
Oahu:		
Ala Moana Park (Ewa)	10	2.0
Ala Moana Park (Center)	6	2.5
Ala Moana Park (Diamond Head)	7	4.8
Elks Club Beach	6	5.4
Ewa Beach	6	2.2
Ft. DeRussy Beach	6	4.4
Gray's Beach	10	9.5
Hanauma Bay	9	5.0
Kahana Park Beach	5	145.6
Kahanamoku Beach	7	10.3
Kahanamoku Lagoon (Diamond Head)	11	22.8
Kailua Bay Outfall Shoreline	8	2.2
Kailua Beach Park	11	15.5
Kokokahi Pier	7	39.5
Kuhio Beach	5	17.7
Public Bath Beach	11	3.1
Tavern Beach	6	9.2
Sand Island Pt. #3	6	3.8
Kauai:		
Anahola Bay Pavilion	1	2.0
Anini Park Pavilion	3	5.6
Brennecke Beach	4	2.8
Hanalei Bay Landing	2	21.0
Hanalei Bay Pavilion	1	13.0
Hanamaulu Beach (Middle)	3	254.6
Kapaa Pavilion	3	3.3
Kealia Beach	1	2.0
Kekaha (Oomano Point)	3	2.0
Poipu Beach	3	8.9
Wailua Beach	3	12.6
Waimea Bay Beach (near river)	2	256.9
Hawaii: (Hilo)		
Exit of Ice Pond	7	30.9
Leileiwi Beach Park	8	33.1
Onekahakaha	8	8.8
Puhi Bay #3	8	22.2
Richardson Ocean Center	7	3.5
Hawaii: (Kona)		
Hapuna Beach	6	3.8
Kahaluu Beach	6	3.5
Kealakekua Bay (off curio stand)	6	3.3
Kealakekua Bay (off canoe landing)	6	3.1
Magic Sands Beach	6	3.7
Puako Beach Lots (middle)	6	4.7
Puako Beach Lots (far end)	6	6.4
Spencer Beach Park	6	3.3

*The geometric mean standard for fecal coliform density is 200 per 100 ml.

Source: Hawaii State Department of Health,
Pollution Investigation and Enforcement Branch, records

WASTEWATER TREATMENT WORKS CONSTRUCTION GRANTS BRANCH

The major function of the Wastewater Treatment Works Construction Grants Branch is to administer the Construction Grants program for public wastewater treatment works under Public Law 92-500. A total of $17,788,814 in federal funds was appropriated to the wastewater treatment works projects in Hawaii during 1988. The major objectives of the construction of public wastewater treatment works are to abate the pollution of the State's waters, to eliminate public health hazard caused by discharge of untreated wastewater flow, and to protect our valuable coastal and underground water.

The Grants Program will be phased out in the next two years. A federally sponsored State Revolving Fund (SRF) will be established to allow counties to borrow from the fund at below market interest rate to finance the construction of public wastewater treatment facilities. The SRF will initially be funded by federal grants of $7,378,900 for 1989. The Legislature appropriated $50 million in 1989 to supplement the State Revolving Fund.

The following projects have received federal funding in 1988:

NEW GRANTS

Project	Amount
Nuuanu Valley Sewer Section 3	$1,646,635
Rice Camp Facilities	553,100
Kaneohe Sewer Section 8	884,678
Aliamanu WWPS #1 and #2 Emergency Generator	156,356
Waimalu SPS Emergency Generator	380,913
Kailua Road Emergency Generator	766,671
Kaneohe STP Modification, Phase 1	4,069,444
Kailua STP Modification, Phase 1	6,027,915
Maunawili Trunk Sewer	788,795
Maunawili Estate Trunk Sewer	1,724,010
TOTAL	$16,998,517

GRANT INCREASES FOR PRIOR PROJECTS

Project	Amount
Sewer Tunnel Relief, Inc. 3	$68,076
Honouliuli WWTP, Phase II	54,234
Makapuu IS, Section 1	11,250
Beach Walk Emergency Generator	67,500
Papaikou-Paukaa SS	99,679
Makapuu IS, Section 1	11,250
Public Bath, Niu Valley Emergency Generator	67,500
Kaneohe Sewer, Section 81.D	240,539
Aliamanu Emergency Generator	62,919
Paia Sewers Part A & B	16,030
Maunawili Estate FM	159,359
TOTAL	$858,336
GRAND TOTAL FOR 1988	$17,856,853

ENVIRONMENTAL PERMITS BRANCH

The Environmental Permits Branch administers permit and registration systems for air, water and solid waste programs by reviewing and evaluating applications and engineering reports and plans.

WASTEWATER PERMITS SECTION

Under federal and state laws, no person can discharge pollutants into a waterway from a point source unless a permit is obtained from the Department, which regulates what may be discharged and how much. Point sources include private and public wastewater treatment facilities, manufacturing plants, agriculture, wholesale, retail and other commercial establishments. Those obtaining permits comply with firm, legally enforceable requirements to meet applicable state laws. At present, the Department administers 82 National Pollutant Discharge Elimination System (NPDES) permits and 30 Zones of Mixing permits.

The Department currently administers a General Pretreatment Program for the U.S. Environmental Protection Agency (EPA). This program controls wastewater discharges into municipal sewer systems. This program was approved for the City and County of Honolulu during 1982.

The Section 401 Water Quality Certification Program requires that under Section 401 of the Clean Water Act (CWA) of 1977, construction or operation of facilities which may result in any discharge into navigable waters shall provide the licensing or permitting agency a certification from the State that the discharge will comply with the applicable provisions of sections 301, 302, 303, 306 and 307 of the CWA and applicable State water quality standards. The Department has been designated the State certifying agency.

TABLE 1

Permits Issued or Renewed (1988 Calendar Year)

NPDES	1
Zones of Mixing	2
Section 401 Water Quality Certification	14

AIR POLLUTION CONTROL AND SOLID WASTE MANAGEMENT PERMITS SECTION

Air and solid waste permits are also administered by the Environmental Permits Branch. Air permits consisting of an Authority to Construct and a Permit to Operate are issued to stationary sources of air pollution. Its primary objective is to safeguard the ambient air quality of the State. Under an agreement between the U.S. Environmental Protection Agency (EPA) and the Department of Health, the Branch administers the source review provisions of the Federal Prevention of Significant Deterioration (PSD) rules and implements certain categories of the Standards of Performance for New Stationary Sources (NSPS) and the National Emission Standards for Hazardous Air Pollutants (NESHAPS). An engineering consultant, contracted through EPA, continued to assist with the review of the PSD applications, which are quite extensive and time consuming.

In 1988, the air permits program experienced increased permitting activity associated with the pressing need to generate electrical energy. This need was the result of an anticipated demand from the many residential, commercial, and resort developments being proposed and constructed throughout the State. Permitted projects included diesel engine generators, gas/oil-fired combustion turbines, and a coal-fired fluidized bed combustion unit. In spite of increased permitting activity, the staff is expecting to finalize the geothermal and coal burning rules in 1989.

The solid waste permits program continued with the management of solid waste disposal facilities through the permit system. Permits are issued to sanitary landfills and processing facilities such as reclamation plants, transfer stations, convenience centers and incinerators. The Department has drafted administrative rules to implement the used oil statutes which were enacted in 1987 and amended in 1988. Public hearings will be scheduled and the used oil rules finalized in 1989. Staff also participated in the development of departmental guidelines for the safe handling, transportation and disposal of infectious wastes from medical facilities.

TABLE 2

Air Pollution Control (1988 Calendar Year)

Authority to Construct Permits Issued	49
Permits to Operate Issued	96

Solid Waste Management (1988 Calendar Year)

Permits Issued	10

SUMMARY - CALENDAR 1988

The principal activity of the Sanitation Branch is to maintain a sanitary and healthful environment for the people of Hawaii by providing inspectional, educational and enforcement activities. Sanitarians investigate and abate health nuisances and minimize insanitary conditions which may be a threat to health. Inspections are made of food and food service establishments; milk plants, frozen dessert manufacturing plants; dairy farms; dwelling units, hotels and other multi-dwelling units; public swimming pools; barber shops; mortuaries and cemeteries; laundries; private sewage disposal systems and various other premises for certificates of approval, clearances for licensure or for permit issuance; or for compliance with public health standards and requirements.

The Sanitation Branch is attempting to streamline its food establishments and restaurants inspection program by converting its outdated manual record keeping system to an automated electronic database system. This system was installed to assist the program in responding to ever increasing demands for certification, licensure, inspection, and surveillance of program activities. The ultimate benefit of this system to the program would enhance the ability of the field personnel to spend a greater amount of time addressing problems in the field and also allow time for the management/supervisory personnel to monitor and interpret field personnel.

Recent changes in Administrative Rules were also enacted to streamline operations. The Chapter on Public Swimming Pools, Chapter 11-13A, was adopted on November 10, 1988 and will tremendously reduce the sanitarians' responsibility to water quality. Additionally, the recent adoption of Wastewater Management Rules, Chapter 11-62, adopted on December 10, 1988 also reduces the sanitarians' responsibility for approving and inspecting cesspools while the major portion of the rule will be administered by Wastewater Treatment Works Construction Grants Branch.

The Food Products Section (food and drug program) in the Sanitation Branch of the Environmental Protection and Health Services Division protects the health of the consumer by ensuring that foods are wholesome; over-the-counter drugs and therapeutic devices are safe and effective; cosmetics are harmless; and that all these products are properly labeled, packaged, and advertised. The section is also empowered to require that certain hazardous household products carry adequate label warnings for the safety of children and are packaged with safety closures.

The Food Products Section administers the Hawaii Food, Drug and Cosmetics Act; the Hawaii Poison Prevention Packaging Act; and the regulations on food and food products, shellfish, milk, frozen desserts, and poisons. The primary responsibilities of the section include: inspecting food, drug and cosmetic establishments; investigating consumer complaints; and collecting various specimens for examination to determine conformity with purity, labeling, and identity standards.

Inspections and investigations conducted by the section resulted in the following regulatory actions: a company which distributes a potassium dietary supplement nationwide was ordered to cease and desist from making unsubstantiated claims about the health benefits of the product; a local bottled water company was ordered to stop selling its water because the water contained high levels of bacteria; defective Lifestyle brand condoms were recalled and this triggered a nationwide recall of millions of condoms made by the company.

A comprehensive report was prepared and submitted to the Legislature in response to a 1987 Legislative resolution which asked the department to address the deficiencies of the section which were pointed out in a 1987 Legislative Auditor's study. The department's report discussed, among other things, ways in which the program could be improved.

On a related note, the Legislature provided additional manpower and supporting funds to enhance the pesticide residue-in-food monitoring efforts of the section. It is anticipated that the new resources will permit the department to test up to 1,000 food samples per year or about three times the number being tested at present.

TABLE 1

AVERAGE DAILY PRODUCTION OF PASTEURIZED MILK BY ISLAND
STATE OF HAWAII, 1988

ISLAND	AVERAGE DAILY PRODUCTION (Pounds)
OAHU	338,904
HAWAII	47,702
MAUI*	--
KAUAI	52,992

*Includes the islands of Maui, Molokai, and Lanai

No retail raw milk is sold for human consumption in the State.

2.5 pounds = 1 quart

TABLE 2

DAIRIES AND MILK PLANTS AS OF DECEMBER 31, 1988
BY TYPE AND ISLAND

TYPE	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI*	KAUAI
Pasteurization Plants	6	2	2	4	1
Milk Plant Producers	22	15	5	1	1

*Includes the islands of Maui, Molokai, and Lanai

TABLE 3

DISTRIBUTION OF SANITARY INSPECTIONS BY TYPE AND ISLAND
STATE OF HAWAII. 1988

TYPE OF INSPECTION	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI*	KAUAI
TOTAL INSPECTIONS	61725	32677	10589	10724	7735
Dwellings	3879	1114	117	520	2128
Apartments	393	291	55	45	2
Hotels	504	274	32	154	44
Lodging Houses	35	32	0	0	3
Tenements	30	29	0	0	1
Boarding Houses	10	8	1	1	0
Adult Family Boarding Homes	43	35	1	5	2
Care Homes	361	240	49	35	37
Day Care Centers	536	374	73	77	12
Kindergartens, Schools	678	368	56	209	45
Institutions, Hospitals	608	27	6	545	30
Funeral Establishments, Cemeteries	43	8	3	13	19
Liquor Dispensers	2670	1869	278	427	96
Grocery Stores	3553	2679	346	394	134
Markets	1198	910	79	165	44
Bottling Plants, Canneries	129	28	57	43	1
Food Manufacturers	3868	2468	433	763	204
Restaurants, Cafeterias, Drive-Ins, Lunch Counters, etc.	12504	9478	848	1544	634
Food Sales	2106	1073	351	359	323

TABLE 3 (Continued)

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI*	KAUAI
Lunch Wagons	1129	968	46	75	40
Food Peddlers	900	862	32	3	3
Dairy Farmers, Milk Plants	885	496	229	98	62
Frozen Dessert Plants	334	35	16	282	1
Dispensing Freezers, Shave Ice Outlets	486	66	119	142	159
Vending Machine Operations	6	3	1	1	1
Warehouses	969	771	59	119	20
Hog Ranches, Poultry Farms, Feed Lots	258	153	16	30	59
Slaughterhouses	14	4	7	3	0
Vegetable Gardens	61	0	22	26	13
Flower Gardens	3	3	0	0	0
Shops, Beauty Parlors	443	326	28	67	22
Massage Parlors, Reducing Salons	144	51	40	23	30
Tattoo Shops	85	70	1	14	0
Clothes Cleaners, Laundries	68	46	6	7	9
Secondhand Dealers	3	0	0	3	0
Mattress Makers	1	0	0	0	1
Amusement Places, Parks, Playgrounds	458	32	28	330	68
Recreational Trailer Camps	2	0	0	1	1
Industrial Plants, Small Shops, General Merchandise	1081	58	93	874	56
Swimming Pools	864	572	77	175	40
Household Sewage Disposal Systems, House Drain, Sewer	8643	2510	3647	1402	1084
Subdivisions	821	66	7	227	521
Unclassified	10919	4280	3330	1523	1786

*Includes the islands of Maui, Molokai and Lanai

TABLE 4

SUMMARY OF ACTIVITIES BY SANITARIAN

STATE OF HAWAII, 1988

ACTIVITY	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI*	KAUAI
A. Inspection, Investigation, Enforcement					
1. Insanitary Practices & Hazardous Conditions Abated					
Structures Repaired	81	81	0	0	0
Plumbing, Fixtures Repaired	68	50	2	10	6
Water Supply Violations Corrected	21	14	1	4	2
Sewage Disposal Violations Corrected	939	111	270	531	27
Ventilation Corrected	66	26	0	40	0
Floor, Walls, Ceiling Cleaned	117	114	0	3	0
Streets, Alleyways, Yards Cleaned of Rubbish, etc.	84	76	0	4	4
Garbage Containers, Conveyances Corrected	143	120	1	18	4
Domestic Animals, Poultry Nuisances Abated	118	98	3	10	7
Vermin, Rodent, Birds, Animal Nuisances Abated	49	41	1	1	6
Food Equipment Replaced, Repaired	37	35	1	0	1
Food Equipment, Utensils Cleaned	91	91	0	0	0
Food Equipment, Utensils Sanitized	58	58	0	0	0
Food Equipment, Utensils Properly Stored, Handled	99	99	0	0	0
Food Storage, Display, Handling Corrected	191	183	0	2	6
Insanitary Personnel Practices Abated	56	56	0	0	0
Food Handlers' Certificate Obtained	2	2	0	0	0

TABLE 4 (Continued)

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI*	KAUAI
Toilet Room and Facilities Cleaned, Repaired	82	75	0	6	1
Barber, Beauty Shop Instruments Cleaned, Sanitized	8	8	0	0	0
Swimming Pool Disinfected; pH Maintained	37	37	0	0	0
Depth Marking Violations Corrected	2	1	0	0	1
Swimming Pool Safety Violations Corrected	27	23	2	2	0
Bacteriological Standards Met	1	0	0	1	0
Abnormal Milk Excluded	0	0	0	0	0
Milking Procedures Corrected	0	0	0	0	0
Thermometric Controls in Compliance	25	23	0	2	0
Pressure Differential of Pasteurizer Met	3	3	0	0	0
Holding Time of Pasteurizer Met	4	4	0	0	0
Required Data on Recorder-Controller Charts Furnished	2	1	0	0	1
Miscellaneous Nuisances Abated	313	295	0	7	11
Total Corrections Made	2527	1528	281	641	77
2. Field Test for Cl, pH, Alk., Sed., Abnormal Milk	4224	724	1616	1380	504
3. Samples Collected: Milk, Food, Water, Swabs, etc.	5862	826	2404	1589	1043
4. Complaints Investigated	3042	2148	249	227	418
Warning Given	723	562	121	11	29
Verbal Orders Given	2597	1514	319	680	84
Verbal Orders Finished	2127	1115	298	641	73
Total Verbal Orders Unfinished	5418	3287	1792	211	128

TABLE 4 (Continued)

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI*	KAUAI
Written Orders Given	66	57	5	2	2
Written Orders Finished	52	43	6	3	0
Total Written Orders Unfinished	268	139	36	92	1
5. Certificates Issued	1233	878	40	288	27
6. Permits Issued	369	250	34	19	66
7. Permits Degraded	11	8	0	0	3
8. Permits Suspended, Revoked	1	0	0	0	1
9. Prosecutions	0	0	0	0	0
B. Education					
1. Food, Milk Handlers' Class	11	5	2	3	1
2. Workshops, Meetings	292	102	103	40	47
3. In-Service Training	152	62	69	3	18
Technical Review and Consultation Provided	7618	2824	1574	634	2586

*Includes the islands of Maui, Molokai and Lanai

TABLE 5

DAILY SUMMARY OF FOOD SERVICE AND FOOD ESTABLISHMENTS

STATE OF HAWAII, 1988

ACTIVITY	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI*	KAUAI
INSPECTION; INVESTIGATION. ENFORCEMENT					
A. Insanitary Practices and Hazardous Conditions Abated					
1. Food Source, Wholesome	343	273	18	50	2
2. Food—Original Container, Properly Labeled	268	165	65	31	7
3. Potentially Hazardous Food Meets Temperature Requirements	371	283	36	43	9
4. Facilities to Maintain Product Temperature	121	86	7	11	17
5. Thermometers Provided and Conspicuous	540	399	97	40	4
6. Potentially Hazardous Food Properly Thawed	227	155	30	42	0
7. Unwrapped and Potentially Hazardous Food Not Re-served	13	12	0	1	0
8. Food Protection—Storage, Preparation, Display, Service, Transportation	1238	927	117	185	9
9. Handling of Food (Ice) Minimized	108	81	7	20	0
10. Food (Ice) Dispensing Utensils Properly Stored	391	270	46	70	5
11. Personnel Infections, Communicable Disease Restricted; T.B. Clearance Card	47	43	0	4	0
12. Hands Washed and Clean, Good Hygienic Practice	293	233	38	21	1
13. Clean Clothes, Hair Restraints	465	342	51	68	4
14. Food Contact Surfaces: Designed, Constructed, Maintained, Installed	517	345	84	85	3
15. Non-Food Contact Surfaces: Designed, Constructed, Maintained, Installed	504	267	122	112	3
16. Dishwashing Facilities: Designed, Constructed, Maintained, Installed	184	119	34	30	1
17. Accurate Thermometers	12	9	2	0	1
18. Single Service Articles, Storage, Dispensing	125	109	8	4	4

TABLE 5 (Continued)

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI*	KAUAI
19. No Re-Use of Single-Service Articles	8	3	5	0	0
20. Pre-flushed, Scraped, Soaked	92	31	17	44	0
21. Wash, Rinse Water: Clean, Proper Temperature	111	68	20	20	3
22. Sanitization Rinse: Clean, Temperature, Concentration	669	462	72	131	4
23. Wiping Cloths: Clean, Use Restricted	451	255	48	146	2
24. Food-Contact Surfaces of Equipment and Utensils Clean	808	661	89	54	4
25. Non-Food Contact Surfaces of Equipment & Utensils Clean	627	538	69	20	0
26. Storage, Handling of Clean Equipment-Utensils	165	146	12	5	2
27. Water Source, Safe: Hot & Cold Under Pressure	153	124	14	12	3
28. Sewage and Waste Water Disposal	81	61	7	13	0
29. Plumbing—Installed, Maintained	339	240	33	65	1
30. Plumbing—Cross-Connection, Back Siphonage, Backflow	123	93	15	13	2
31. Toilet & Handwashing Facilities—Number, Convenient, Accessible, Installed	286	193	34	53	6
32. Toilet Rooms, Self-Closing Doors, Good Repair, Clean Hand Cleanser, Sanitary Hand-Drying, Proper Waste Receptacles	791	594	111	82	4
33. Garbage & Refuse Disposal Receptacles Covered: Adequate No., Insect/Rodent Proof, Clean	134	88	10	33	3
34. Outside Storage Area, Enclosures Properly Constructed, Clean: Incineration Controlled	46	37	3	5	1
35. Presence of Insects, Rodents—Outer Openings Protected, Turtles, Other Animals, Proper Insecticides	823	603	97	110	13
36. Floors: Constructed, Drained, Clean, Good Repair, Covering Installation, Dustless Cleaning Method	676	473	84	115	4
37. Walls, Ceiling, Attached Equipment: Constructed, Good Repair, Clean, Surfaces, Dustless Cleaning Methods	859	628	89	137	5
38. Lighting Provided as Required	188	90	34	64	0
39. Rooms and Equipment—Vented as Required	146	108	14	24	0
40. Dressing Rooms—Rooms Clean, Lockers Provided, Facilities Clean	84	61	17	6	0
41. Toxic Items Properly Stored, Labeled, Used	681	440	123	107	11

TABLE 5 (Continued)

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI*	KAUAI
42. Premises: Maintained, Free of Litter, Unnecessary Articles, Cleaning/Maintenance Equipment Properly Stored, Authorized Personnel	397	300	51	36	10
43. Complete Separation from Living/Sleeping Quarters, Laundry	7	3	1	3	0
44. Clean, Soiled Linen Properly Stored	21	12	8	1	0
Total Corrections Made	14533	10430	1839	2116	148
B. Field Test for Cl, pH, Alk, etc.	1334	479	159	633	63
C. Samples Collected: Food, Water Swabs, etc.	535	204	73	128	130
Complaints Investigated	1330	1059	84	90	97
E. Orders and Warnings					
Warnings Given	3809	2758	859	168	24
Verbal Orders Given	14095	9774	1711	2366	244
Verbal Orders Finished	10925	6957	1713	2116	139
Total Verbal Orders Unfinished	57915	49686	3565	3901	763
Written Orders Given	177	175	0	1	1
Written Orders Finished	46	45	0	1	0
Total Written Orders Unfinished	337	321	0	11	5
F. Certificates Issued	5700	4951	63	623	63
G. Permits Issued	1230	769	236	159	66
H. Permits Suspended, Revoked	9	2	1	3	3
I. Prosecutions	0	0	0	0	0
EDUCATION					
A. Food Handlers' Class	82	13	66	2	1
B. Workshops, Meetings	99	62	29	3	5
C. In-Service Training	106	88	17	0	1
TECHNICAL REVIEW AND CONSULTATION PROVIDED	3444	1618	898	455	473

*Includes the islands of Maui, Molokai and Lanai

TABLE 6

SAMPLES EXAMINED FOR PRODUCT STANDARDS AND COMPLIANCE
STATE OF HAWAII, 1988

Type of Samples Collected	Number Collected	Violative Samples
Samples for Evidence Documentation a/	71	22
Product Standard Samples b/	149	14
Water Samples from Aquaculture Growing Areas	8	0
Seafood/Imported Shellfish	37	1

a/ Samples to document a violation or suspected violation which may have been found during an inspection or investigation.

b/ Samples to determine compliance with labeling and product standard requirements.

TABLE 7

FOOD PRODUCTS EXAMINED FOR PESTICIDE RESIDUES
STATE OF HAWAII, 1988

Type of Samples Collected	Number Collected	Violative Samples a/
Food Products b/	119	12
Milk and Milk Products c/	180	0

a/ The number of violative samples may include retested samples.

b/ Includes raw agricultural commodities and processed foods, other than milk and milk products.

c/ Includes raw or processed milk.

TABLE 8

SAMPLES AND ANALYSES OF MILK AND MILK PRODUCTS
STATE OF HAWAII, 1988

Product	No. of Samples for Product Standards a/	Violative Samples b/
Raw Milk	347	10
Processed Milk c/	331	24
Others d/	553	65

a/ Analyses to determine compliance with various milk standards including microbiological, inhibitory substance, somatic cell, phosphatase, milkfat, solids-not-fat, and temperature standards.

b/ The number of violative samples includes retested samples.

c/ Includes homogenized milk, 2% lowfat milk and skim milk.

d/ Other milk products include recombined milk, imitation milk, yogurt, sour cream, milk containers, etc.

TABLE 9

SAMPLES AND ANALYSES OF FROZEN DESSERTS
STATE OF HAWAII, 1988

Type of Frozen Dessert	Number of Samples	Violative Samples
Ice Milk	658	201
Ice Cream	88	17
Sherbet	22	0
Frozen Yogurt	251	33
Others (non-dairy)	49	11
Total	1,068	262

Samples tested for compliance with various frozen dessert standards including milkfat, solids-not-fat and microbial standards.

TABLE 10

FOOD AND OVER-THE-COUNTER DRUGS CONDEMNED AND DESTROYED BY COUNTY
STATE OF HAWAII, 1988

County	Foods (Weight in Pounds)	Retail Value	Over-The-Counter Drugs & Medical Devices (Weight in Pounds)	Retail Value
Honolulu	2,771,286	$179,257.00	500	$2,647.00
Hawaii	132,899	39,598.00	168	83.00
Maui	11,000	16,500.00	0	0
Kauai	23	38.00	609	1,463.00
Total	2,915,208	$235,393.00	1,277	$4,193.00

TABLE 11

SELECTED ACTIVITIES OF THE FOOD PRODUCTS SECTION
STATE OF HAWAII, 1988

Activities	Number
Agency Assistance	16
Complaint Investigations	248
Label Reviews	1,240
Frozen Dessert Permits Issued	250
Poison Permits Issued (new) a/	11
Permits Issued for Prophylactic Devices	0
Number of Consultations	1,259
Workshops and Speaking Engagements	21

a/ The number of poison permits issued does not include renewed poison permits.

DRINKING WATER PROGRAM

The Drinking Water Program administers the state's version of the federal Safe Drinking Water Act. The state regulates all water systems serving more than 25 persons a minimum of 60 days per year. This work includes activities such as monitoring, technical assistance, surveillance, and enforcement of regulations in efforts to assure that public water systems throughout the state meet certain minimum standards. One of the major areas of growth in the Drinking Water Program over the next several years will be in the number of standards for drinking water which will be enforced.

A major accomplishment of the Program during 1988 was the completion of the first phase of sampling for a new set of chemicals known as Volatile Organic Chemicals (VOC's). In this first phase, eight new chemicals were added to the existing list of 23 contaminants. Eventually, the Program will be regulating as many as 83 contaminants in public water systems.

Another activity which involved the Drinking Water Program during 1988 was the study of lead occurence in rain catchment systems. Although most of these systems do not qualify as public water systems, the Program was able to assist the Sanitation Branch in the organization and logistical work involved with both a survey of lead in catchment systems, and the follow-up screening program that was instituted by the Department of Health on the island of Hawaii. The Department determined that there were systems on that island whose water did contain significant amounts of lead, primarily due to the use of leaded materials in the system, significantly leaded paints in the water tanks. Limited sampling was done on the islands of Oahu, Maui, and Kauai from similar catchment systems to determine if these systems were similarly impacted, however, findings on these islands did not exceed the 20 parts per billion which was used as an actionable level.

TABLE 1

PUBLIC WATER SYSTEMS*
STATE OF HAWAII, 1988

SYSTEMS	Total	Island			
		Hawaii	Maui	Oahu	Kauai
Municipal Systems	55	22	11	8	15
Private	67	14	15	20	9
State Systems	13	2	5	6	4
Federal Systems	28	3	4	18	2
Total	163	41	35	52	30
Sanitary Surveys**	36	11	12	7	6

* A Public Water System is defined as a system that has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year.

** A Sanitary Survey is an on-site inspection of a public water system by Department personnel using standard procedures to determine the effectiveness of the operation and maintenance of the system in providing safe water to the consuming public.

SUMMARY

The objective of the Vector Control Branch is to prevent outbreaks of vector-borne diseases and serious vector nuisances. This is accomplished through program activities that are designed to control existing vector populations and prevent encroachment of new vector species from abroad.

Table 1 presents the principal activities of the branch. There was an overall increase in the number of people reached and consulted (education) in 1988 compared to the previous year.

Table 2 presents the small mammal retrieval data by island and area. The Polynesian Rat (Rattus exulens) was the more common rat species trapped this year while in 1987, the roof rat (Rattus rattus) was the most common rat species recovered.

Table 3 presents a summary of the zoonosis laboratory activities and findings. Serology testing was generally lower overall in 1988 than the previous year. The number of ectoparasites (fleas, mites, and lice) recovered and the number of sera tested for murine typhus all decreased over the previous year.

Table 4 presents a summary of the applied vector research projects which are conducted to provide the program with a better basis for controlling vectors.

TABLE 1

PRINCIPAL ACTIVITIES OF THE VECTOR CONTROL BRANCH ON THE

ISLANDS OF OAHU, HAWAII, MAUI, AND KAUAI

STATE OF HAWAII, 1988

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI	KAUAI
VECTOR SURVEILLANCE					
Mosquitoes (Lt.trap days)	43,692.00	21,346.00	9,273.00	3,427.00	9,646.00
Small mammals (Trap days)	220,750.00	9,741.00	177,032.00	32,846.00	1,131.00
Flies (Trap days)	213.00	16.00	104.00	-	93.00
Yellowjackets (Trap days)	912.00	-	-	-	912.00
Others (Trap-Days)	-	-	-	-	-
DOMESTIC VECTOR ABATEMENT					
No. Premises Inspected for Survey	12,841.00	92.00	10,192.00	2,012.00	545.00
No. Additional Premises Inspected					
During Complaints	3,197.00	2,000.00	695.00	375.00	127.00
Enforcement					
Demolition Permits Investigated	737.00	677.00	34.00	24.00	2.00
Total No. of Premises (Grand Total)	24,104.00	6,788.00	13,103.00	3,329.00	884.00
Complaints Investigated	4,519.00	2,430.00	1,379.00	608.00	102.00
Small mammals	2,092.00	1,032.00	742.00	278.00	40.00
Mosquitoes	624.00	449.00	75.00	81.00	19.00
Flies	252.00	152.00	61.00	32.00	7.00
Cockroaches	92.00	47.00	7.00	35.00	3.00
Fleas	271.00	189.00	28.00	46.00	8.00
Ticks	56.00	33.00	5.00	17.00	1.00
Mites	119.00	94.00	14.00	9.00	2.00
Wasps	262.00	14.00	184.00	50.00	14.00
Bees	223.00	50.00	158.00	14.00	1.00
Other	481.00	323.00	105.00	46.00	7.00
AREA VECTOR ABATEMENT					
Mosquito breeding areas (acres inspected)	30,992.00	6,878.57	1,090.30	8,988.45	14,034.68
Mosquito breeding areas (acres treated)	3,651.66	404.67	56.50	1,759.70	1,430.79
Mosquito breeding sites & containers					
No. inspected	116,325.00	26,099.00	61,519.00	25,475.00	3,232.00
No. treated	71,230.00	3,414.00	52,375.00	14,397.00	1,044.00
Mosquito Bio-Control (no. fish stocked)	96,920.00	30,565.00	6,005.00	44,450.00	15,900.00
Vector areas treated (acres)	3,595.39	57.22	726.70	2,788.92	22.55
CORDON SANITATION					
No. of airport inspections	1,361.00	321.00	689.00	283.00	68.00
No. of harbor/pier inspections	1,472.00	336.00	702.00	429.00	5.00
No. of rodent bait stations	4,048.00	2,444.00	1,161.00	443.00	-
No. of mosquito breeding sites & containers	9,964.00	9,239.00	25.00	337.00	363.00
EDUCATION AND CONSULTATION					
No. of People Reached	9,330.00	5,016.00	959.00	1,524.00	1,831.00
No. of Vector Identifications	1,930.00	1,841.00	55.00	24.00	10.00
No. of Source Reduction Consultations	2,253.00	720.00	63.00	694.00	776.00
APPLIED VECTOR RESEARCH					
Completed projects	7.00	7.00	...	...	...
On-going projects	3.00	3.00	...	...	...

TABLE 2: TOTAL SMALL MAMMAL RETRIEVALS BY ISLAND ACTIVITY, AND SPECIES
STATE OF HAWAII, 1986

Island	Activity	*Trap Days	Total Small Mammals Retrieved	Total Number	Species							
					Rattus				mus domesticus		Herpestes auropunctatus	
					Percent	exulans	norvegicus	rattus	Number	Percent	Number	Percent
HAWAII	Field	82503	7205	3283	45.6%	2084	452	747	2998	41.6%	924	12.8%
	Cordon	94529	4773	487	10.2%	309	1	177	2717	56.9%	1569	32.9%
	Total	177032	11978	3770	31.5%	2393	453	924	5715	47.7%	2493	20.8%
OAHU	Field	7716	1550	366	23.6%	344	21	1	1097	70.8%	87	5.6%
	Cordon	2025	16	10	62.5%	8	2	-	6	37.5%	-	-
	Total	9741	1566	376	24.0%	352	23	1	1103	70.4%	87	5.6%
MAUI	Field	7896	821	649	79.0%	429	-	220	172	21.0%	-	-
	Cordon	24950	69	30	43.5%	29	-	1	39	56.5%	-	-
	Total	32846	890	679	76.3%	458	-	221	211	23.7%	-	-
KAUAI	Field	861	111	79	71.2%	40	6	33	32	28.8%	...	...
	Cordon	270	34	3	8.8%	1	1	1	31	91.2%	...	...
	Total	1131	145	82	56.6%	41	7	34	63	43.4%	...	...
TOTAL	Field	98976	9687	4377	45.2%	2897	479	1001	4299	44.4%	1011	10.4%
	Cordon	121774	4892	530	10.8%	347	4	179	2793	57.1%	1569	32.1%
	Total	220750	14579	4907	33.7%	3244	483	1180	7092	48.6%	2580	17.7%

*Trap Days = Number traps set times number of days trapped

TABLE 3

SUMMARY OF ZOONOSIS LABORATORY ACTIVITIES AND FINDINGS BY AREA

STATE OF HAWAII, 1988

ACTIVITY	TOTAL	ISLAND				
		OAHU	EAST HAWAII	WEST HAWAII	MAUI	KAUAI
No. Macroscopic Examinations	8420	959	1739	5136	507	79
Ectoparasites Recovered						
No. Fleas	135	76	-	33	-	26
No. Mites	945	508	-	14	-	423
No. Lice	54	50	-	-	-	4
Serology						
No. Sera for Branch Tests	4195	339	1733	1485	497	141
Plague(a)						
No. Sera Tested	554	36	206	223	12	77
No. Sera Positive (%)	-	-	-	-	-	-
Murine Typhus(b)						
No. Sera Tested	3641	303	1527	1262	485	64
No. Sera Positive	173	5	1	1	162	4
(%)	(4.8)	(1.7)	(0.1)	(0.1)	(33.3)	(6.3)
Leptospirosis(c)						
No. Cultures Prepared	473	394	...	...	...	79
No. Cultures Positive	77	70	...	...	...	7
(%)	(16.3)	(17.8)	...	...	...	(8.9)

(a) Only animals retrieved from ports of entry and Kauai tested for plague
(b) Only rat sera test by IFA technique
(c) Oahu and Kauai only

TABLE 4

APPLIED VECTOR RESEARCH/TRAINING PROJECTS

STATE OF HAWAII, 1988

Pest Common Name (Scientific Name)	Project Title	Status/Purpose
Long-Legged Ant (Anoplolepis longipes)	Distribution, Abundance, and Control of the Long-Legged Ant	Ongoing. Long term observations of several ant colonies are being conducted to determine whether natural controls are present that limit population densities.
Mouse (Mus domesticus)	Mice Ecology Studies to Aid in Predicting Major Mice Population Explosions that Periodically Occur on Hawaii, Maui, and Oahu	Ongoing. Several potential methods of predicting mice population explosions that were determined by previous research are now being used to verify their accuracy in preventing future outbreaks.
Dog Dung Fly (Musca sorbens)	Development of an Integrated Fly Control Program to Abate a Serious Dog Fly Problem at Clover Leaf Dairy at North Kohala	Ongoing. Studies to develop an integrated fly control program at Clover Leaf Dairy are almost complete. This method, if successful, would control this species without the use of pesticides.
Dog Dung Fly (Musca sorbens)	Ovipositional Response of Musca sorbens Wiedemann (Diptera: Muscidae) elicited by odors from Dung Containing Digested Residues of Certain Feed Supplements Commonly Used at Dairies	Completed. This study showed that odors from digested residues of ground corn in cow dung was the primary attractant to ovipositing M. sorbens. Residues of coarser rolled corn were relatively unattractive compared to ground corn. Results indicated that feeding of non-corn ingredients in quantities normally fed at dairies do not produce dung attractive to ovipositing M. sorbens.
Dog Dung Fly (Musca sorbens)	Preference Exhibited by Ovipositing Musca sorbens Wiedemann to Dung Pats From Dairy Cows Fed the Same Rations	Completed. This study showed that ovipositing M. sorbens exhibited definite preference to some cow dung pats from animals that were fed the same rations. This exhibition of selectivity suggested the presence of an odor from digestive residues of feed supplements that initiates an ovipositional response. Such an odor is suspected to be caused by either a variation of digestive efficiency or intestinal microflora of certain cows.

TABLE 4 (Continued)

Pest Common Name (Scientific Name)	Project Title	Status/Purpose
Dog Dung Fly (Musca sorbens)	Ovipositional Preference of Caged M. sorbens to Cow Dung Containing 50% Partially Digested Feed Supplements Commonly Used at Dairies	Completed. Cow dung samples containing ground corn captured approximately 76% of eggs laid among the eight feed supplements exposed to ovipositing M. sorbens. Rolled corn and rolled barley were relatively unattractive compared to their ground counterparts.
Dog Dung Fly (Musca sorbens)	Nutritional Quality of Cow Dung as a Factor in Ovipositional Selectivity Exhibited by Musca sorbens Wiedemann	Completed. This study showed the puparia reared in dung attractive to M. sorbens was about 47% heavier than those from unattractive dung. While this study indicates that selection of dung pats for oviposition by M. sorbens is due to its nutritional quality, other fly species do develop normally from dung of cows fed only pasture grass; though tests suggests that M. sorbens requires more nutrients than other dung breeding flies for optimal development.
Dog Dung Fly (Musca sorbens)	Selectivity Exhibited by Ovipositing M. sorbens Among Dung of Cows Fed Guinea Grass with Either Ground Corn, Rolled Corn, or Cottonseed Meal in Amounts Normally Fed at Dairies	Completed. The results of this test showed that 82% of the eggs laid by M. sorbens were on samples of dung from cows fed ground corn. This study showed the differences in attractiveness of dung to ovipositing M. sorbens from cows fed same amounts of corn proved that the digestive efficiency of cows were variable.
Dog Dung Fly (Musca sorbens)	Suffocation Studies of Musca sorbens Puparia by Drenching the Soil with a Sprinkler Irrigation System	Completed. This study showed that the mortality rates of M. sorbens puparia due to suffocation by soil drenching were much less than the 90% figure obtained in earlier tests. Mortality rates of 56% and 65% were obtained when the larvae were allowed to burrow in the porous sandy soil and the sprinkler irrigation system were in operation for one and two hours respectively. It was concluded that the porous soil and tunnels made by the larvae provided air pockets that reduced the mortality rates in this study.
Blood Sucking Leech (?)	Biossay Studies of an Unidentified Immigrant Leech Testing Several Insecticides	Completed. This study showed that this leech species could be killed with chlorinated water at 50 ppm (.00005) level. The insecticides tested (0.1 ppm Dursban, 1.0 ppm Permethrin, and 1.0 ppm Cypermethrin) were also effective against this leech species.

SUMMARY

The Litter Control Office was established within the Department of Health pursuant to Act 2, First Special Session of the 1977 Legislature. The purpose of the office is to promote, coordinate and implement litter control in the State through public education and awareness, streamlined enforcement, continuing voluntary anti-litter campaigns, and requirements for litter receptacles.

"Litter" means all rubbish, refuse, waste material, garbage, trash, offal, or any debris of whatever kind or description, whether or not it is of value, and includes improperly discarded paper, metal, plastic, glass, or solid waste.

The results produced in the 1988 Community Work Day Program are listed in Table 1. Statewide Community Work Days were held on 5 days in 1988 and local community work day projects were held throughout the year.

Table 2 shows the number of participating schools and individuals and the amount of aluminum cans and newspapers and other materials collected in the 1988 Statewide Recycling Campaign. The campaign was conducted during the month of February on the islands of Oahu, Maui, Kauai, Hawaii and Molokai. The Governor's Advisory Committee on Litter Control sponsored this campaign with the Litter Control Office.

Table 3 shows the number of litter control materials that were made available to community organizations, youth groups and the general public. Car litter bags and the various types of educational and promotional materials are available to the public, upon request, for litter control projects and promotional purposes.

TABLE 1

1988 COMMUNITY WORK DAY PROGRAM
STATE OF HAWAII

No. Bags of Litter Picked Up	19,291
No. of Participating Groups	1,024
No. of Participants	14,159
Total Dollars Collected by Neighborhood Committees	$5,941

TABLE 2

STATE RECYCLING CAMPAIGN
STATE OF HAWAII, FEBRUARY 1988

No. of Participating Schools	Approximate No. of Participating Individuals	No. of Pounds of Aluminum Cans Collected	No. of Pounds of Other Materials Collected	Total Dollars Earned
98	120,000	207,962	74,867	$119,384

TABLE 3

LITTER CONTROL MATERIALS DISTRIBUTED
STATE OF HAWAII, 1988

Type of Material	Total Amounts Distributed
Car Litter Bags a/	800,000
Bumper Stickers and Decals	6,000
Printed Materials b/	65,000
Other Promotional Materials c/	9,000

a/ Includes 750,000 bags distributed by State Department of Transportation.
b/ Flyers, posters, brochures, and notices.
c/ Magnets, bookcovers, calendars, pens, keytags, and weepuls.

HAZARDOUS WASTE PROGRAM

The role of the State's Hazardous Waste Program is to regulate all aspects of the management of a hazardous waste from the time it is generated to the time it is finally disposed of properly. Persons managing solid wastes are required to identify the solid waste deemed to be "hazardous wastes" by EPA, and then to manage that hazardous waste at a treatment, storage or disposal (TSD) facility in accordance with regulatory requirements.

The Department presently administers its Hazardous Waste Program under the direction and guidance of the U.S. EPA pursuant to Cooperative Agreements under Section 3011 and Subtitle I of the Resource Conservation and Recovery Act (RCRA) as amended. Under these agreements, the State assumed responsibility for conducting compliance inspections and monitoring of generators, transporters and TSD facilities for hazardous waste and owners of underground storage tanks. The State is also delegated the responsibility for improving the Community's overall awareness and understanding of hazardous waste problems and procedures, as well as respond to specific questions raised by concerned individuals.

Summary of Program Activities
1989

Inspections of TSDF's	6
Inspections of Generators	5
Inspections of Transporters	1
Complaints Investigated	7
Public Awareness Activities (speeches, seminars, workshops, etc.)	19

FAMILY HEALTH SERVICES DIVISION

FAMILY HEALTH SERVICES DIVISION

SUMMARY

The Family Health Services Division administers and coordinates programs concerned with the provision and promotion of health services to families, including women of childbearing age, mothers, infants, children and youth. These programs are carried out through the Maternal and Child Health Branch, which includes Family Planning, the Children with Special Health Needs Branch, and the School Health Services Branch. The Division emphasizes services which are family-centered and community-based.

The MATERNAL AND CHILD HEALTH BRANCH accomplishes its functions through three organizational sections: (1) family planning, (2) maternal and infant, and (3) children and youth. The goal of the Maternal and Child Health (MCH) Branch is to assure that all women of childbearing age, infants and children in the State of Hawaii achieve and maintain optimal health. the Branch provides leadership and advocacy to strengthen the health delivery systems of services to women and children, integrating both the public and private sectors. The methods used include direct service provision, cooperative interagency agreements, purchase of service contracts, training others to provide the service, developing community resources, and coordinating existing community resources.

Preschool Developmental Screening Program

The goal of the Preschool Developmental Screening Program (PDSP) continues to be the early identification of preschool aged children with developmental and/or learning problems so educational and health planning as indicated can begin early. From 1981 to 1988, PDSP trained interested preschool teachers, Public Health Nurses, and other community workers in the administration of the DIAL (Developmental Indicators for the Assessment of Learning) so they could screen the children under their care. PDSP provided consultation and interpretation services, as well as follow up evaluations for those children identified as being possibly at risk. Training was also provided to raise their level of awareness and sensitivity to developmental/learning concerns.

In 1988, there were approximately 21,000 children in preschool settings, only 10% of these received DIAL screening (see table 1). A closer look at the penetration within the community showed that in 1988 approximately 25% of those screened were thought to have serious enough concerns for evaluation to be recommended. Approximately 60% of the preschools statewide had a DIAL trained screener (see figure 1). Of these 48% did no DIALS while 25% did 1 to 5 DIALS. (See figure 2). Additionally, between 1981 and 1988, 54% of DIAL trained screeners became unavailable for screening (see table 2). In 1987-1988 alone, 93 were trained, and 68 were "lost," for a 73% turnover.

In view of the above statistics, and the fact that the developmental screening tool is no longer marketed (DIAL is being replaced by the DIAL-Revised version), the program is realigning its services to meet major needs by: development of a Level 1 screening instrument that teachers can administer with a minimum of training and effort that would identify children in need of finer screening; administration of a Level 2 (DIAL R) screening tool which would identify those children in need of evaluation; establishment of protocols by which high risk children not in special programs can access to Program services/be monitored or tracked by program into kindergarten entry; and establishment of protocols by which children not in preschools can access to Program services.

Maternal and Infant Services Section

The MCH Branch offers five programs which address the concerns of the maternal-fetal/infant population.

- The Regional Perinatal Program's primary goal is that every pregnant woman and newborn in the State receives services appropriate to their assessed needs. The estimated target population includes 25,000 pregnant women of which 20 percent is estimated to be high-risk pregnancies, and 2,800 high-risk infants. Contracted through the Kapiolani Medical Center for Women and Children, the Regional Perinatal Program has developed a series of quality assurance documents, risk identification tools and follow-up protocols, community resource directory, professional perinatal and public education, and health advocacy activities.

- The Neonatal Intensive Care Unit (NICU) Follow-up Program is a collaborative project between the Department of Health, Kapiolani Medical Center for Women and Children, and the private pediatric community. The purpose of the program is to develop a system for the identification and follow-up of all high risk low birth weight infants born in the State of Hawaii which includes medical, developmental, and psychosocial screening and referral through age three. During FY 1988, 217 infants were assessed. At 3 months of age, 29 percent (28/95) of the infants were found to have suspected delays. At nine months of age, major handicapping conditions were recognized in 9 percent (7/81) of the infants seen. Although no major conditions were diagnosed in the three year old age group, minor handicapping conditions were noted in 15 percent (4/27) of the children seen. In addition, 10 percent (25/247) of the children were found to have psychosocial problems.

-The Maternity and Infant Care Project's provide multi-disciplinary comprehensive prenatal care, community based prenatal education, family planning services to high risk pregnant women and infants under one year of age. Project activities are available in the Waimanalo, Hilo, Kona and Kau communities.

- Health consultation services are provided to Kamehameha Schools/Bishop Estate's federally funded Native Hawaiian Child Development Centers. The goal of the program is to establish an integrated system of education, health and social services programs for families of Native Hawaiian children in the prenatal to age five range in four communities: Kalihi-Palama, Waianae, Koolauloa, and Kona. The MCH nurse consultant assists in the integration of health concepts and the development of a case management system for the program's three components: home visitor, travelling preschool, and center based preschool.

- Family Support Services are provided to families at risk for child abuse and neglect through contractual agreements with six community agencies in the following communities: Ewa, Hilo, Kalihi, Kauai, Kona, Maui, Molokai, Waianae. Approximately 45 percent of all births throughout the state received hospital based screening for factors associated with family dysfunctioning. Families found to be at-risk (650) received home based interventions to alleviate family stress, to promote family functioning and enhance child development.

Family Planning Services Section

The Office of Family Planning provides overall planning, data collection and evaluation; monitoring, training, and technical assistance; and coordination and development for the publicly subsidized family planning programs in Hawaii.

Program staff participate in the activities of numerous community task forces and advisory groups to promote awareness of family planning and to ensure the inclusion of family planning issues in the broad context of preventive health.

Special projects included the "Make A Positive Connection Campaign" as part of a statewide communication/media campaign. The goal was to strengthen the communication skills of teenagers and to increase their ability to obtain assistance from positive community resources. The Chlamydia Project conducted in cooperation with the STD program indicated prevalence rates which varied from 5% to 18% in the participating clinics. The Family Planning Information Line Project received 5,500 calls. The line gives a recorded message with names, locations, and telephone numbers for the subsidized clinics.

Training was provided to contractors in the areas of Quality Assurance, Contraceptive Update, Marketing and Client Recruitment, AIDS, Basic Health Worker's Skills, and Front Desk Skills. The sessions totaled 300 participants. Technical Assistance was also provided to two contractors.

EPSDT Program

The Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program, through an agreement with the Department of Human Services, provides outreach, case management and technical assistance to providers and community agencies. The Program's focus is to access and maintain EPSDT eligible Medicaid clients in the health care system. Activities have included education and training sessions, information and referral, beginning data collection/system development and evaluation. Our goal is a comprehensive and integrated health care system for Medicaid children that will, in addition, set the standard for all children.

In 1988, the Program received nine hundred fifty (950) referrals from Medicaid families. All of these families received information on EPSDT services and a third received counseling and referral services. Training sessions were conducted with a variety of agency participants.

Adolescent Health Network

The Adolescent Health Network is a three-year project to improve the health status of 10-19 year olds in Hawaii. Community-based health case management systems are being developed as pilot efforts in Waianae, Molokai, and Puna. A State-level, inter-agency Advisory committee has examined the health needs of adolescents in Hawaii and is developing strategies to address these needs. A permanent data base for an Adolescent Health Profile, to be published first in September 1990, is being developed.

The Teen Intervention Program contracted through Kapiolani Medical Center for Women and Children provides counseling, case management and health education to pregnant adolescents Oahuwide. A primary focus is the prevention of a second pregnancy in the teen years. Brief and/or intensive counseling services were provided to 579 new adolescent clients in 1988. Health education presentations relating to adolescent pregnancy were provided to an estimated 7,046 people throughout the State in 1988. Of these, 5,112 were high school students.

Waimanalo Children and Youth Project

The Waimanalo Children and Youth Project provides comprehensive health care services to Waimanalo infants, children, and adolescents up to age 16 years. Services include pediatric, public health nursing, social work, and nutrition services.

The CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH (formerly Crippled Children Services Branch) offers diagnostic evaluations by specialists to children under the age of 21 years who are suspected of having one of the eligible medical conditions. Treatment services for those children who are financially eligible and have an eligible medical condition include medical and surgical treatment, hospitalization, occupational and physical therapy, speech therapy, orthodontic and dental treatment, social work and nursing services.

The medical eligible conditions include birth defects (such as cleft lip and palate, congenital heart disease, orthopedic conditions and spina bifida), severe asthma, rheumatic fever and rheumatic heart disease, surgically correctable eye conditions, hearing impairment and certain neurologic disorders. The Branch also provides genetic counseling and diagnostic services, comprehensive myelodysplasia services, and comprehensive services for children with rheumatic disorders through the Pediatric Arthritis Center of Hawaii.

The Branch also administers Hawaii's Newborn Screening Program which has statewide responsibilities for assuring that all infants are tested for phenylketonuria (PKU) and congenital hypothyroidism. Major responsibilities include the tracking and follow-up of infants to assure satisfactory testing to detect all infants with the specified diseases and to assure timely treatment. Preliminary analysis of the Newborn Screening Registry indicates that the number of PKU and congenital hypothyroid cases in Hawaii is about the same magnitude as reported nationally. In 1988, there was a slightly higher than expected number of congenital hypothyroid cases.

The Prenatal Screening and Diagnosis Program ensures that pregnant women have information about and access to prenatal screening, diagnostic and follow-up services if so desired. The program is responsible for providing educational materials to prenatal care providers for their clients, assuring quality laboratory testing, coordinating data collection, and assisting with referral for counseling and diagnostic services and treatment services as requested. In 1988, approximately 8,500 pregnant women had the maternal serum alpha fetoprotein (MSAFP) screening test.

Begun in August 1988, the Hawaii Birth Defects Monitoring Program (HBDMP) was established to be a reliable and valid information source for ascertaining the number and kind of birth defects and other adverse reproductive outcomes occurring in Hawaii. Based upon national data that about 3% of all babies are born with a birth anomaly, we would expect to see over 550 children born each year with a defect. During its pilot phase, the HBDMP is taking the first steps in realizing its long range goals of helping to ameliorate and prevent birth defects and other adverse reproductive outcome.

The Zero-to-Three Hawaii Project entered Year II of its Federal funding to develop the statewide system of early intervention services for infants and toddlers with special needs and their families as required under Federal P.L. 99-457. Legislation has been written to provide a statutory basis within the State for the system. The definitions, identification system, and system of services have been developed. Six direct service projects were funded. Several grants have been developed through other Federal agencies. The Hawaii Early Intervention Council issued its first report on the status of early intervention services in the state. Planning is continuing to assure that the entire system will be in place by 1992.

The SCHOOL HEALTH SERVICES BRANCH provides a health service delivery system for all public school students with particular emphasis on preventive health care services. The Branch services about 200,000 students in all the islands except Niihau. School health services are available to student and staff alike. The goal is to ensure that students are in the best state of health in their learning environment.

The services are provided by two sections. The School Health Services Section focuses on health promotion and conditions, first aid services for illness and injury and referral of problems to appropriate resources in the community. With the advent of P.L. 94-142, there has been a greater demand for nursing services to children with specialized health care needs.

The School Health Support Services Section includes the Vision and Hearing Screening Unit and the Occupational Therapy and Physical Therapy Units. The Vision and Hearing Screening Unit provides services for the early identification of specific sensory deficits in order to prevent interference with learning and adjustment. They provide uniform and regular screening, re-screening of students, issue medical referrals and conduct follow up with parents. Selected services are provided to preschools and private schools.

The Occupational and Physical Therapy Units provide evaluation, consultation and therapy services to the handicapped school population in accordance with P.L. 94-142. Therapy services are directed toward the development and maintenance of the handicapped child's potential for independence in all educationally related activities. The increase in the number of children requiring support services in schools and outside of medical settings has necessitated an expansion and a change in the kinds of services therapists offer.

The Peer Education Program provides needs assessment of health problems and health education activities facing school-aged children through the collaboration of the Departments of Health and Education with other community agencies. The main purpose of the Peer Education Program is to empower students to gain technical knowledge about a variety of health issues such as: AIDS, drug abuse, teenage pregnancy, etc. and to develop social skills, self-esteem, attitudes and problem-solving competencies.

TABLE 1

Preschool Developmental Screening Program

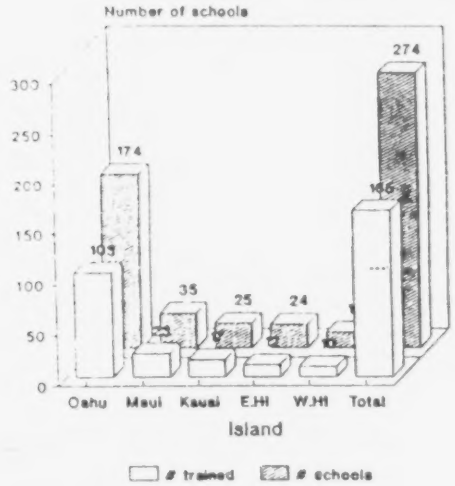
POPULATION SCREENED, 1985 - 1988, STATEWIDE

YEAR	#DIALED	POPULATION	%SCREENED
85-86	3,502	18,061	19
86-87	2,423	18,294	13
87-88	2,112	21,599	10

FIGURE 1

Preschool Developmental Screening Program

SCHOOLS WITH TRAINED SCREENER
JUNE, 1988, HAWAII



Source PDSP, MCHB
Department of Health

FIGURE 2

Preschool Developmental Screening Program

NUMBER OF DIALS DONE BY SCHOOL
1987-1988, STATEWIDE

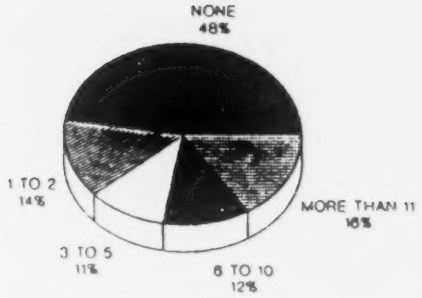


TABLE 2

Preschool Developmental Screening Program

NUMBERS TRAINED AND LOST, 1981 - 1988, STATEWIDE

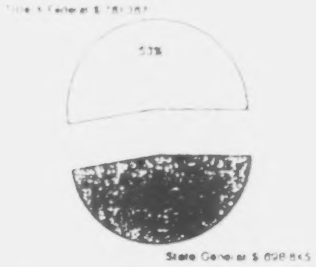
ISLAND	# TRAINED	#LOST	%LOST
OAHU	355	212	60
MAUI	55	24	44
KAUAI	55	16	29
E. HAWAII	27	16	59
W. HAWAII	24	12	50
TOTAL	516	280	54

Source: PDS, MCHB,
Department of Health

Overview Fiscal Year 1988

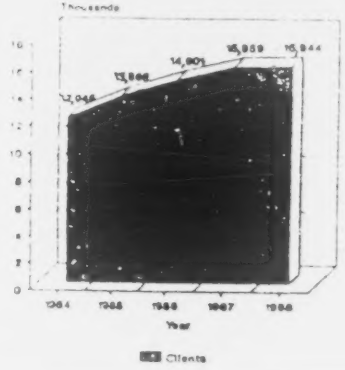
In 1988, OFP administered grants from both Title X of the Public Health Service Act and general funds from the State of Hawaii totalling $1,480,212, as shown in Figure 3. Eighty percent of these funds are used for direct clinical services. Additional revenues that are not administered by OFP include: Federal Title V block grants, third party paid, patient fees and contributions, Aloha United Way and private donor contributions.

FIGURE 3
OFP SOURCES OF FUNDING
Hawaii 1988



During year 1988, OFP clinics provided contraceptive, educational and outreach, and counseling services to 15,944 clients, including 211 males. As shown in Figure 4 this is a slight increase over clients served in 1987, continuing a progressive trend from 1984 through 1988.

FIGURE 4
OFFICE OF FAMILY PLANNING
CLIENTS 1984-1988

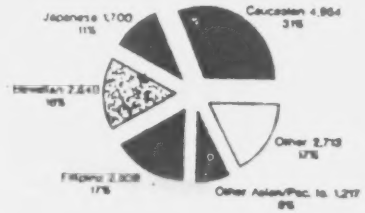


Family Planning Clients In Hawaii

- Demographics

Ethnicity - While our clients reflect the diverse Hawaii population, Caucasians and Filipinos seek services at a higher rate than their representation in the population, as shown in Figure 5.

FIGURE 5
ETHNICITY OF OFP CLIENTS
HAWAII 1988



Age - Fifty-one percent of our clients are in their twenties, the high fertility reproductive years, as shown in Figure 6.

FIGURE 6
AGE DISTRIBUTION OF FAMILY
PLANNING CLIENTS

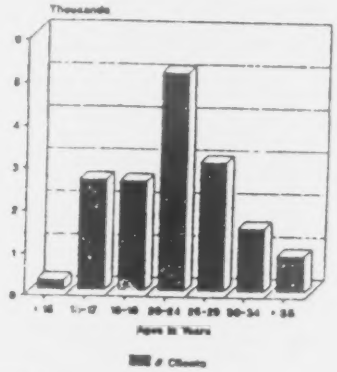


TABLE 3

SELECTED RISK FACTORS

Hilo MIC, Waimanalo MIC
State of Hawaii, 1988

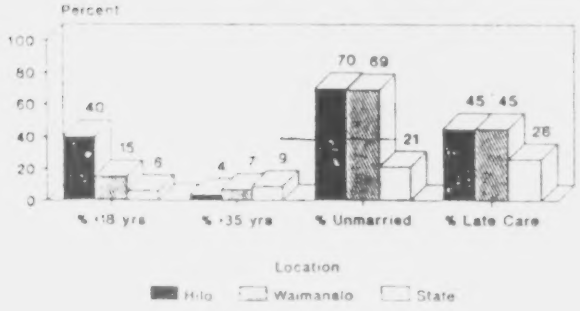


TABLE 4

MATERNAL AND INFANT SERVICES SECTION
CHARACTERISTICS OF CLIENTS SERVED
STATE OF HAWAII 1988

	HILO (N=149)	WAIMANALO (N=119)	TOTAL (N=268)
Insurance Coverage			
Title XIX	77%	30%	48%
No insurance	10%	42%	29%
Third Party	13%	28%	23%
Ethnic Distribution			
Hawaiian/ Part Hawaiian	56%	76%	66%
Caucasian	17%	14%	15%
Filipino	14%	4%	9%
Japanese	5%	1%	4%
Mixed	2%	2%	2%
Others	6%	3%	4%
Newborn Deliveries	79	119	198

These 15,944 clients were seen through 27,583 visits, at an average of 1.72 visits per client per year, as shown in Table 5. The current standard practice is to provide services to clients in under 2 visits per year. In some programs more than two visits are required. In comprehensive health care settings and Maternity and Infant Care programs, services that require additional visits include nutritional evaluations and post-partum care.

TABLE 5

HAWAII OFFICE OF FAMILY PLANNING
SURVEY OF CLIENTS AND VISITS

TYPE OF AGENCY	DATA: CLIENTS	# VISITS	V/C
OAHU - PURCHASE OF SERVICE			
Waikiki Hlth. Center	816	787	1.28
Kokua Kalihi Valley	823	1,484	1.80
Queen's Emma Clinic	1,202	1,988	1.65
Hale Ho'ola Hou	1,106	1,994	1.80
University of Hawaii	1,540	2,968	1.92
Kapiolani Hospital	1,664	3,330	2.00

TYPE OF AGENCY	DATA: CLIENTS	# VISITS	V/C
NEIGHBOR ISLAND - PURCHASE OF SERVICE			
Hana Medical Group	18	13	1.23
Ka'u Family Planning	48	61	1.27
Molokai Gen. Hosp.	389	931	2.39
HPP - Kona	787	1,453	1.89
HPP - Kauai	857	1,667	1.97
HPP - Maui	1,337	2,311	1.73
Bay Clinic	1,491	2,882	1.93

TYPE OF AGENCY	DATA: CLIENTS	# VISITS	V/C
DEPT. OF HEALTH - CLINICS			
MIC - Lanai	77	192	2.49
ROFPP - Nanakuli	136	180	1.32
ROFPP - Wahiawa	223	368	1.65
MIC - Waimanalo	381	909	2.39
MIC - Hilo	334	974	2.92
ROFPP - Kaneohe	568	976	1.72
ROFPP - Waipahu	2,374	4,189	1.76

TABLE 6
WAIMANALO CHILDREN AND YOUTH PROJECT ACTIVITIES
CALENDAR YEAR 1988
STATE OF HAWAII
MATERNAL AND CHILD HEALTH BRANCH

CLIENTS	CHILDREN NUMBER	(%)
TOTAL	1,815	
ETHNICITY		
Native Hawaiian	1,461	(80.5%)
Filipino	137	(7.5%)
Caucasian	73	(4.0%)
Samoan	36	(2.0%)
Japanese	5	(0.3%)
Black	2	(0.1%)
Chinese	2	(0.1%)
Other	99	(5.5%)

SERVICES	NUMBER OF VISITS
PEDIATRIC	9,310
Health assessments	1,216
Episodic care, rechecks	5,432
Nursing services (including developmental assessments)	2,662
PUBLIC HEALTH NURSING	1,038
Home and hospital visits	246
SOCIAL WORK	536
NUTRITION	1,044

TABLE 7
CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH
TOTAL AND NEW CLIENT COUNT BY DIAGNOSIS
Fiscal Year 1987-1988

	Total	New
Cardiac	561	185
Craniofacial	131	29
Hearing Impaired	269	119
Metabolic Disorders	76	49
Blood Disorders	6	5
Neurologic/Neuromuscular	300	89
Orthopedic	122	48
Plastic	2	0
Pulmonary	60	17
Speech-Language	2	0
Surgical Ear	56	19
Vision (Surgical)	49	17
Other Major Congenital Malformation	107	45
Infectious Disease	1	1
Deferred or Provisions Diagnosis	37	33
Exam Made, No Abnormality	12	11
Accident	1	1
Other Mental Deficiency	9	7
TOTAL	1801	675

TABLE 8
CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH
NUMBER OF CASES BY AGE AND COUNTY
Fiscal Year 1987-1988

			COUNTY							
		HAWAII		MAUI		HONOLULU		KAUAI		
AGE:	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW
<1	222	160	51	35	26	23	129	91	16	11
1-4	541	255	129	66	58	21	314	159	40	9
5-9	403	130	111	39	38	14	226	72	28	5
10-14	284	67	93	23	25	6	150	38	16	
15-17	154	21	34	3	20	6	93	12	10	
18-20	97	15	14	4	11	1	62	10	7	
21	4	1					3	1	1	
TOTAL	1705	649	432	170	178	71	977	383	118	25

TABLE 9
CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH
NUMBER OF ACTIVE CASES, NEW CASES, AND DISCHARGES
Fiscal Year 1987-1988

	TOTAL 7-1-87	DISCHARGED 87-88	TOTAL 6-30-88
CARRIED OVER	942	122	820
NEW CASES	649	238	411
REOPENED	114	16	98
	1705	376	1329

TABLE 10

NUMBER OF INFANTS SCREENED AND CONFIRMED THROUGH
NEWBORN SCREENING PROGRAM
Calendar Year 1988

Year	Estimated No. Screened	No. Presumptive Positives		No. Confirmed Positives	
		PKU	Hypothyroid	PKU	Hypothyroid
1988	18,897	10	336[a/]	1[b/]	12[a/], [c/]

[a/]These figures represent what is known in the civilian population.

[b/]This case was diagnosed as hyperphenylalanemia.

[c/]To date, of the twelve, seven have been diagnosed as true congenital hypothyroidism.

TABLE 11
TOTAL NUMBERS OF HEALTH ROOM VISITS,
REASONS FOR VISIT AND DISPOSITION
School Health Services Branch
Department of Health
State of Hawaii
By School Year From 1983 Through 1988

	1983-84	1984-85	1985-86	1986-87	1987-88
Total visits to health room	501,515	524,973	521,973	608,613	631,628
Reason or visit (Students Only)	(44.75)	(45.33)	(43.43)	(44.93)	
Illness	224,412	237,993	226,424	273,431	287,469
Injury	(39.11)	(37.97)	(38.63)	(36.73)	
	196,141	199,318	201,416	223,564	235,473
Medication	(6.13)	(7.02)	(8.42)	(9.67)	
	30,733	36,875	43,882	58,849	127,607
TLC	(4.72)	(4.10)	(4.10)	(4.11)	
	23,688	21,540	21,837	24,990	29,427
Non-health	(5.14)	(5.57)	(5.33)	(4.43)	
	25,770	29,247	27,780	26,956	25,931
Disposition: (Students and Staff)	(19.67)	(21.05)	(19.86)	(20.99)	
Sent Home	98,672	110,519	103,561	127,727	169,532
Returned to class	(78.43)	(77.14)	(78.41)	(77.34)	
	393,322	404,974	408,773	470,728	467,940
Remained in health room	(1.90)	(1.81)	(1.73)	(1.67)	
	9,521	9,480	9,005	10,158	10,949

Total health room visits include students and staff.

a/ Numbers are approximate.

b/ Numbers in parenthesis represent percentages of annual health room visits.

TABLE 12
REQUEST FOR ADMINISTRATION OF MEDICATION
BY STUDENT AND CONDITION
School Health Services Branch
Department of Health
State of Hawaii
1987 - 88

District	Number of Students	Conditions	No.	PRN	NUMBER OF MEDICATION Scheduled	Storage
Honolulu	21	Allergy	21	18	3	0
Windward	19		19	12	7	0
Central	8		8	2	5	1
Leeward	12		11	9	2	0
Hawaii	11		11	11	0	0
Maui b/	11		24	24	0	0
Kauai	24					
Honolulu	19	Asthma	19	9	10	0
Windward	21		21	5	7	0
Central	58		58	17	41	0
Leeward	15		15	0	15	0
Hawaii	1		1	1	0	0
Maui b/	14		14	14	0	0
Kauai	58		58	0	58	0
Honolulu	4	Headache, Migraine	4	4	0	0
Windward	4		4	4	0	0
Central	2		2	2	0	0
Leeward	1		1	1	0	0
Hawaii	0		0	0	0	0
Maui b/	0		0	0	0	0
Kauai	8		0	0	0	0
Honolulu	86	Hyperactivity	86	0	86	0
Windward	126		126	0	126	0
Central	155		155	0	155	0
Leeward	90		90	0	90	0
Hawaii	9		9	0	9	0
Maui b/	16		16	0	16	0
Kauai	272		272	0	272	0
Honolulu	8	Seizures	8	0	7	0
Windward	7		7	1	6	0
Central	4		4	0	4	0
Leeward	9		9	0	9	0
Hawaii	2		2	0	2	0
Maui b/	3		3	0	3	0
Kauai	16		16	0	16	0
Honolulu	15	Other	15	7	7	0
Windward	10		10	2	8	0
Central	20		20	5	14	1
Leeward	22		22	5	17	0
Hawaii	6		6	0	6	0
Maui b/	6		6	5	1	0
Kauai	2		2	0	2	0
TOTAL						

a/ A student is counted only once in whichever diagnostic category that is listed first.
b/ Maui includes the Islands of Maui, Molokai and Lanai.
c/ A student may have more than one medication and condition.

TABLE 13

NUMBER OF STUDENTS RECEIVING OCCUPATIONAL THERAPY SERVICES
BY CATEGORY AND DISTRICT, FISCAL YEAR 1987-88
School Health Services Branch
Department of Health, State of Hawaii

	Honolulu	Windward	Central	Leeward	Hawaii	Maui	Kauai	Total
Severely Multiply Handicapped	39	21	36	40	22	17	9	184
Learning Disabled	104	125	108	76	59	12	9	493
Mild Ment. Retarded	30	24	17	16	21	8	2	118
Mod. Ment. Retarded	47	14	8	17	14	3	0	103
Sev./Prof. Retarded	21	1	12	9	4	1	1	49
Ortho. Handicapped	42	16	29	19	15	4	5	130
Other Health Impaired	18	11	18	5	12	0	6	70
Emot. Handicapped	15	8	12	6	3	1	1	46
Visually Impaired	7	0	5	1	3	0	1	17
Hearing Impaired	5	4	4	1	2	1	1	18
Learning Impaired	19	9	26	19	24	14	9	120
Speech Impaired	17	12	21	6	6	6	22	90
Others	10	2	36	14	3	21	2	88
TOTAL	374	247	332	229	188	88	68	1,526

TABLE 14

NUMBER OF STUDENTS RECEIVING PHYSICAL THERAPY SERVICES
BY CATEGORY AND DISTRICT, FISCAL YEAR 1987-88
School Health Services Branch
Department of Health, State of Hawaii

	Honolulu	Windward	Central	Leeward	Hawaii	Maui	Kauai	Total
Severely Multiply Handicapped	41	18	35	68	26	18	12	218
Learning Disabled	16	18	6	7	8	5	5	65
Mild Ment. Retarded	13	7	0	2	5	5	4	36
Mod. Ment. Retarded	29	7	11	10	16	9	1	83
Sev./Prof. Retarded	14	1	5	7	2	0	2	31
Ortho. Handicapped	50	26	38	32	26	8	6	186
Deaf/Blind	0	4	0	0	0	0	0	4
Emot. Handicapped	3	4	1	3	2	0	0	13
Visually Impaired	1	0	1	0	4	0	0	6
Hearing Impaired	7	0	4	2	1	2	2	18
Learning Impaired	17	20	20	27	16	4	9	113
Others	47	29	43	27	15	4	12	177
TOTAL	238	134	164	185	121	55	53	950

TABLE 15

NUMBER OF STUDENTS RECEIVING SOCIAL WORK SERVICES
BY COMPLEX, FISCAL YEAR 1987-88
School Health Services Branch
Department of Health, State of Hawaii

	Total Served	# Discharged	# Carried To Next Year
Campbell Complex	34	6	28
Jefferson Complex	44	14	30
TOTAL	78	20	58

TABLE 16
VISION STATISTICS
School Health Services Branch
Department of Health, State of Hawaii

1987-1988

Type of School	Total Number Screened	Number Referred	% Ref.	No. of Completed Referrals	% Comp. Ref.	No. New Deficit Findings	% New Def. Find.	% Def. Find. of No. Screen.	No. New Glasses Prescribed	% New Glasses	% New Class of No. Screen	% Over Ref.
Preschools	1956	46	2%	26	56%		88%	1%	14	61%	1%	12%
Private/Parochial												
Dept. of Educ.												
Oahu	79901	2221	3%	1521	68%	1377	91%	2%	948	69%	1%	9%
Hawaii	15621	427	3%	286	67%	251	88%	2%	170	68%	1%	12%
Maui	11396	453	4%	357	79%	333	93%	3%	211	63%	2%	7%
Kauai	6267	97	2%	84	86%	81	100%	1%	74	88%	1%	
Total	115,131	3241	3%	2274	70%	2068	91%	2%	1417	69%	1%	9%

TABLE 17
HEARING STATISTICS
School Health Services Branch
Department of Health, State of Hawaii

1987-1988

Type of School	New Cases			Old Cases			No. of Completed Referrals*	% Comp. Ref.	Number Deficit Finding	% Def. Find.	% Def. Find. of Number Screened*	% Over Ref.
	Number Screened	Number Referred	% Referred	[illegible]	[illegible]	[illegible]						
Preschools	8712	445	5%	236	50	21%	295	60%	258	87%	3%	13%
Private/Parochial Schools	9197	210	2%	405	57	14%	154	58%	135	88%	1%	12%
Dept. of Educ.												
Oahu	52,748	1379	3%	2916	666	23%	1099	54%	898	82%	2%	18%
Hawaii	10,483	267	3%	1307	269	21%	276	51%	250	91%	2%	9%
Maui	7,421	150	2%	817	165	20%	232	74%	222	96%	3%	4%
Kauai	3,963	104	3%	326	113	35%	88	40%	65	74%	2%	26%
Total	92,524	2555	3%	6007	1320	22%	2144	55%	1828	85%	2%	15%

*Includes old cases.

MEDICAL HEALTH SERVICES DIVISION

SCREENING RESULTS

Chronic Disease Branch

Statistical Report - 1988

Table 1 shows the total number of persons screened and the new diabetics found, by age and sex. The overall number screened is more than last year because of the addition of cholesterol screening to our program, which attracts more screenees.

Table 2 shows the rates of new diabetics by race and sex. The total is lower this year than last (4.17 vs 6.31). Japanese and Filipino show the highest rates (6.57 and 6.49 respectively), while Hawaiian/Part Hawaiian does not reflect the true rate of diabetes in this group, and is probably a result of the self-selection process of this kind of screening.

Table 3 shows the rate of new diabetics found by island. Hawaii again leads by over three times the rate for Oahu (9.56 vs 2.91).

Table 4 shows the results for blood pressure screening. The total number of abnormals found is essentially the same as in prior years, and is in accord with national findings.

Table 5, 6, 7, and 8, show the statistical findings from cholesterol screening. The total percent of abnormal (200 mgm/dl and above) was similar to last year's findings (54.9 vs 53.2). This figure follows mainland findings.

Table 6 analyzes the abnormal and high levels found by race. We have found a consistent pattern each year of the highest rates in Japanese and Filipino, and lowest in Hawaiian/Part Hawaiian. This patterns is true for every island, as is shown in Table 8. We do not know the reason for this, and will continue to monitor our findings closely.

TABLE 1

DEPARTMENT OF HEALTH
CHRONIC DISEASE BRANCH

DIABETES SCREENING SURVEY BY AGE AND SEX FOR JULY, 1987 - JUNE, 1988

	TOTAL SCREENED			NEW DIABETICS					
				NUMBER			RATE *		
	TOTAL	MALE	FEMALE	TOTAL	M	F	TOTAL	M	F
ALL AGES	10,301	4,464	5,837	43	23	20	4.17	5.15	3.42
UNDER 25	472	194	278	0	0	0	0.00	0.00	0.00
25-44	3,342	1,553	1,789	1	1	0	0.29	0.64	0.00
45-54	1,359	604	755	4	1	3	2.94	1.65	3.97
55-64	1,996	738	1,258	12	5	7	6.01	6.77	5.56
65-OVER	3,132	1,375	1,757	26	16	10	8.30	11.63	5.69

*Number of new diabetics per thousand screenees.

TABLE 2

DEPARTMENT OF HEALTH
CHRONIC DISEASE BRANCH

DIABETES SCREENING SURVEY BY RACE AND SEX FOR JULY, 1987 - JUNE, 1988

	TOTAL SCREENED			NEW DIABETIC					
				NUMBER			RATE*		
	TOTAL	MALE	FEMALE	TOTAL	M	F	TOTAL	M	F
ALL RACES	10,301	4,464	5,837	43	23	20	4.17	5.15	3.42
JAPANESE	4,260	1,618	2,642	28	11	17	6.57	6.79	6.43
CAUCASIAN	2,596	1,277	1,319	2	2	0	0.77	1.56	0.00
HAWAIIAN,PART-HA	929	469	460	2	0	2	2.15	0.00	4.34
CHINESE	682	319	363	4	4	0	5.86	12.53	0.00
FILIPINO	924	384	540	6	5	1	6.49	13.02	1.85
KOREAN	107	37	70	0	0	0	0.00	0.00	0.00
PUERTO RICAN	66	35	31	0	0	0	0.00	0.00	0.00
OTHER & UNSPEC.	737	325	412	1	1	0	1.35	3.07	0.00

*Number of new diabetics per thousand screenees.

TABLE 3

DEPARTMENT OF HEALTH
CHRONIC DISEASE BRANCH

DIABETES SCREENING SURVEY BY ISLAND FOR JULY 1, 1987 - JUNE 30, 1988

LOCATION	TOTAL SCREENED	NO. POSITIVE DEXTROSTIX	NEW DIABETICS	RATE PER 1000 SCREENED
OAHU	6,869	111	20	2.91
HAWAII	2,090	84	20	9.56
MAUI	1,104	14	3	2.71
KAUAI	0	0	0	0.00
MOLOKAI	94	0	0	0.00
OTHERS	144	3	0	0.00
TOTAL	10,301	212	43	4.17

TABLE 4

BLOOD PRESSURE SCREENING

FY 1987 - 1988

	Number	Percent
Total Screened	2587	100.0
Total *Abnormal Referred	656	25.4
New Referrals	452	17.5
Known Hypertensive Referrals	204	7.9
Total Normal Screened	1931	74.6

*Abnormal Criteria is 140/90 or above.

TABLE 5

Cholesterol Screening
FY 1987 - 1988

	Total Screened	Percent
	10302	100.0
Normal (under 200 mgm/dl)	4651	45.1
Borderline (200 - 239 mgm/dl)	3312	32.2
High (over 240 mgm/dl)	2339	22.7

TABLE 6

Cholesterol Screening
Abnormal & High Risk Levels By Race
FY 1987 - 1988

	Total Screened	No. Abnormal (>199 mgm/dl)	% Abnormal	No. High (>239 mgm/dl)	% High
All Races	10302	5651	54.9	2339	22.7
Japanese	4226	2730	64.6	1237	29.3
Filipino	993	444	44.7	139	14.0
Chinese	810	442	54.6	175	21.6
Hwn/Part Hwn	957	455	47.5	162	16.9
Korean	125	65	52.0	24	19.2
Caucasian	2703	1320	48.8	530	19.6
Puerto Rican	69	33	47.8	15	21.7
Other	419	162	38.7	57	13.6

TABLE 7

Cholesterol Screening By Age Group
By Total Abnormal Level
Fy 1987 - 1988

Age Group	Total Screened	Total Abnormal >199 mgm/dl	% Abnormal
	10302	5651	54.9
< 20	216	20	9.3
20 - 39	2754	813	29.5
40 - 59	3049	1833	60.1
60 - 74	3524	2507	71.1
75 +	759	478	63.0

TABLE 8

Cholesterol Screening
By Island, By Race, & By Total Abnormal Level
FY 1987 - 1988

	All Island			Oahu			Hawaii			Maui			Lanai			Molokai		
	Total No. Screened	Total Abnormal		Total No. Screened	Total Abnormal		Total No. Screened	Total Abnormal		Total No. Screened	Total Abnormal		Total No. Screend	Total Abnormal		Total No. Screened	Total Abnormal	
		No.	%		No.	%		No.	%		No.	%		No.	%		No.	%
All Races	10302	5651	54.9	6986	3579	51.2	1979	1241	62.7	1099	727	66.2	144	75	52.1	94	29	30.9
Japanese	4226	2730	64.6	2728	1687	61.8	967	669	69.2	464	333	71.8	42	32	76.2	25	9	36.0
Filipino	993	444	44.7	643	265	41.2	192	93	48.4	69	51	73.9	71	32	45.1	18	3	16.7
Chinese	810	442	54.6	730	389	53.3	51	32	62.7	28	21	75.0	1	0	00.0	0	0	00.0
Hwn/Part Hwn	957	455	47.5	696	314	45.1	160	89	55.6	65	40	61.5	8	3	37.5	28	9	32.1
Korean	125	65	52.0	113	57	50.4	9	6	66.7	3	2	66.7	0	0	00.0	0	0	00.0
Caucasian	2703	1320	48.8	1687	730	43.3	537	318	59.2	434	256	59.0	22	8	36.4	23	8	34.8
Puerto Rican	69	33	47.8	46	19	41.3	20	12	60.0	3	2	66.7	0	0	00.0	0	0	00.0
Other	419	162	38.7	343	118	34.4	43	22	51.2	33	22	66.7	0	0	00.0	0	0	00.0

STATE HYPERTENSION PROJECT

SUMMARY

The Federal Preventive Health Block Grant, Department of Health and Human Services, funds the State Hypertension Project. The Project was administered by the Public Health Nursing Branch, State Department of Health, since its inception in May 1980 through August 1988. Effective September 1, 1988, the project has been administered under the Chronic Disease Branch in order to better integrate and strengthen chronic disease prevention and control services and programs for the Department.

Hypertension is a major risk factor of cardio-vascular disease, the leading cause of death in the nation and in Hawaii. The mission of the Project is to decrease blood pressures and increase the number of known hypertensives with controlled blood pressures, thus preventing morbidities and mortalities due to strokes, hypertension, and related diseases of the heart and kidneys. To accomplish its mission, the Project coordinates the efforts of a comprehensive blood pressure control program with 52 agencies throughout the State. Together, these agencies provided a total of 18,998 blood pressure tests, screening an estimated 15,274 individuals. The project reached a total of 409 lay people and professionals in 40 educational sessions on hypertension and related diseases. 545 fire fighters were certified or recertified in blood pressure testing activities in 51 training sessions. They, in turn, conducted a total of 6,472 blood pressure tests. Expansion of the fire department blood pressure screening program continued with the addition of the Kauai County Fire Department in February 1988. Presently all 70 fire stations, statewide, are participating in this nationally recognized blood pressure control program.

The Project organized the Hawaii State Coordinating Council in High Blood Pressure Control in 1986 and continues to head this diversely representative group of 55 members through monthly meetings and dissemination of information.

Table 1 shows the results of 52 agencies working in collaboration with the Project. There was a 6.3% increase in blood pressure tests given (17,867 to 18,998) and a 1.4% increase in individuals served (15,066 to 15,274).

Table 2 summarizes the prevalence, treatment, and control data from the 18,998 individuals screened. The prevalence of hypertension in Hawaii's adults is estimated to be between 35% to 37% (this is based on data from the Project's screening activities, which is not a random screening). Of the known hypertensives who participated in varied community screenings, 74.5% were on treatment for their high blood pressure as compared to 72.6% in 1987. The number of hypertensives with controlled blood pressure decreased from 39.1% to 38.6%.

Table 3 reflects the training and educational activities of the project reaching health professionals, the lay public, and fire fighters who were also certified as blood pressure screeners. A total of 1,950 individuals was reached in 118 group sessions.

TABLE 1

GENERAL BLOOD PRESSURE SCREENING AND FOLLOW UP SERVICES
PROVIDED BY PARTICIPATING AGENCIES

STATE HYPERTENSION PROJECT -- CHRONIC DISEASE BRANCH

FISCAL YEAR 1988

Number of Blood Pressure Tests Given	Number of Individuals Served	Number Receiving Follow Up
18,998	15,274	4,105

TABLE 2

BLOOD PRESSURE CONTROL STATUS OF HAWAII'S PEOPLE
STATE HYPERTENSION PROJECT -- CHRONIC DISEASE BRANCH

FISCAL YEAR 1988

	1988	1987	1986
Prevalence of Hypertension	36.1%	37.6%	38.4%
Hypertensives on Treatment	74.5%	72.6%	71.1%
Hypertensives with Controlled Blood Pressure	38.6%	39.1%	37.4%

TABLE 3

STATE HYPERTENSION PROJECT -- CHRONIC DISEASE BRANCH

FISCAL YEAR 1988

	Number of Groups Reached	No. Individuals Reached
Training and Education		
Professional Education	22	198
Public Education	18	211
Health Fairs	2	865
Blood Pressure Certification		
Firefighters	51	545
Other	25	131
TOTALS	118	1950

The Emergency Medical Services System Branch (EMSS) is responsible for the administration and coordination of the State comprehensive emergency medical services system through a cohesive network of components that are designed to reduce morbidity and mortality by assuring the availability and accessibility of the best possible prehospital emergency medical services statewide.

Prehospital emergency ambulance services are provided on each of the six major islands. State standards require that 95% of all calls be responded to within an average of twenty (20) minutes. All calls are responded to by trained Emergency Medical Technicians (EMT(s)),Mobile Intensive Care Technicians (MICT(s)),and when necessary, public safety personnel (county and state fire, police, and lifeguards). All personnel are trained through the Community Colleges on Oahu, Maui, Kauai, and Hawaii.

Emergency medical resources are linked by the statewide MEDICOM communication system which provides for voice communication between ambulance personnel and hospitals. This communication system is essential so physicians can provide medical direction in the delivery of prehospital emergency medical care.

Table 1 shows the number of emergency ambulance units located on each island and the level of service provided while Table 2 shows the volume of calls responded to on each island for the past three years and the overall island response times.

TABLE 1
EMERGENCY AMBULANCE UNITS/LEVEL OF SERVICES BY ISLANDS
STATE OF HAWAII, FISCAL YEAR 1988-89

Island	Level of Service		Total
	BLS	ALS	
Oahu	-	14	14
Hawaii	3	7	10
Kauai	-	3	3
Maui	1	5	6
Molokai	-	1	1
Lanai	1	-	1
TOTAL	5	30	35

BLS = Basic Life Support ALS = Advanced Life Support

TABLE 2
VOLUME OF EMERGENCY AMBULANCE CALLS AND THE OVERALL
AVERAGE RESPONSE TIME BY ISLAND
STATE OF HAWAII, CALENDAR YEARS 1986,1987,1988

Island	1986		1987		1988	
	Volume	Response	Volume	Response	Volume	Response
Oahu	27,039	9 min.	26,947	9 min.	30,636	10 min.
Hawaii	4,963	11 min.	6,175	14 min.	5,847	16 min.
Kauai	1,912	14 min.	1,882	14 min.	2,122	15 min.
Maui	3,663	12 min.	4,221	12 min.	4,319	11 min.
Molokai	376	9 min.	386	9 min.	309	10 min.
Lanai	47	15 min.	62	16 min.	79	14 min.
TOTAL	38,000		39,673		43,312	

LABORATORY SERVICES

The Laboratories Branch provides services to other state agencies, institutions and other Department of Health programs to enhance their effectiveness in the protection of the public's health and safety, to control the quality of the environment and to enforce the various state laws and regulations.

The services provided include air pollution chemistry; medical microbiology (bacteriology, mycology, parasitology, virology and serology); chemical and microbiological analyses of food and drugs, milk and milk products drinking water and other sanitary and environmental samples. The branch also provides training opportunities for other laboratory personnel in the state, as well as, consultation with other laboratorians.

In Fiscal Year 1987, the branch continued to work with departmental programs to improve the quality and availability of laboratory services in the state. The Air Pollution laboratory was transferred to the Queen Emma Building, thus providing additional space within Kinau Hale with which to meet the expanding chemical analytical demands of the Drinking Water Program in the area of volatile organic contaminants.

The branch has continued to be recertified by the FDA to perform microbiological and chemical analyses on shellfish and milk; recertified by the EPA to perform microbiological and chemical analyses on potable water; recertified by the EPA to perform air pollution monitoring analyses. The branch also continues to serve as a Salmonella typhi Phage Typing Center for the Centers for Disease Control (CDC) and as a Collaborating Laboratory in the World Health Organization's Influenza Surveillance system. The medical bacteriology unit also serves as a reference laboratory for the CDC.

TABLE 1

NUMBER OF SAMPLES SUBMITTED TO VARIOUS SECTIONS OF THE LABORATORIES BRANCH AND NUMBER OF BACTERIOLOGICAL, PARASITOLOGICAL, SEROLOGICAL AND CHEMICAL EXAMINATIONS PERFORMED UPON THEM BY TYPE OF SPECIMEN AND ISLAND

STATE OF HAWAII - JULY 1987 TO JUNE 1988

Diseases or Type of Samples	All Laboratories		Oahu		Hawaii		Maui		Kauai	
	Specimen/ Sample	Examinations	Specimen/ Sample	Examinations	Specimen/ Sample	Examinations	Specimen/ Sample	Examinations	Specimen/ Sample	Examinations
Total	75,459	284,283	58,429	146,176	7,929	26,250	5,966	7,533	3,135	4,324
Microbiology (Isolation)										
Enteric	138	861	-	-	87	672	48	177	3	12
Gonorrhea	5,743	6,871	-	-	1,925	3,051	2,492	2,483	1,326	1,337
Staphylococcus Phage Typing	707	6,891	707	6,891	-	-	-	-	-	-
Streptococcus	281	526	-	-	279	524	-	-	2	2
Tuberculosis	1,229	5,135	-	-	1,229	5,135	-	-	-	-
Miscellaneous Bacteriology	264	731	-	-	146	514	-	-	118	217
Mycology	276	1,477	-	-	276	1,477	-	-	-	-
Parasitology	560	570	200	200	7	21	344	340	9	9
Viral Isolation	16	34	-	-	16	34	-	-	-	-
Serology: Syphilis ...	1,044	1,248	-	-	234	420	770	779	40	49
Non-syphilis	131	285	-	-	131	285	-	-	-	-
Viral & Rickettsial	209	357	-	-	209	357	-	-	-	-
Sanitary Microbiology:										
Drinking Water	5,770	13,494	997	6,313	2,146	4,039	1,659	2,019	968	1,123
Pollution Water	1,210	21,598	552	14,362	363	5,965	148	731	147	540
Food Products	2,978	35,961	2,048	31,804	387	2,940	287	680	256	537
Food Poisoning	357	6,159	357	6,159	-	-	-	-	-	-
Sanitary Chemistry:										
Drinking Water	1,409	3,502	1,227	3,320	182	182	-	-	-	-
Pollution Water	1,023	3,557	997	3,513	10	20	-	-	16	24
Food Products	1,491	3,069	721	1,657	302	614	218	324	250	474
Pesticide	407	1,627	407	1,627	-	-	-	-	-	-
Toxicology	1,121	1,510	1,121	1,510	-	-	-	-	-	-
Clinical Chemistry (INH)	-	-	-	-	-	-	-	-	-	-
Air Pollution Chemistry	49,095	68,820	49,095	68,820	-	-	-	-	-	-

TABLE 2

INCIDENCE OF HUMAN SALMONELLA BY TYPE AND AGE
CENTRAL LABORATORY ON OAHU

STATE OF HAWAII - JULY 1987 TO JUNE 1988

Group	Serotype	All Ages Total	Less than Six Months	Six Months to One Year	One Year to Three Years	Three Years to Ten Years	Ten Years to Twenty Years	Twenty Years and Over	Unknown
		604	77	46	59	74	60	229	59
A	paratyphi A	2						2	
B	agona	127	3		6	22	30	53	13
	bredeney	7			4	1		1	1
	derby	1		1					
	heidelberg	49	8	8	12	9	3	5	4
	paratyphi B var java	1				1			
	saint paul	3			2			1	
	san diego	3						3	
	stanley	2	1	1					
	typhimurium	82	5	12	10	15	9	24	7
	typhimurium var copenhagen	4	2			1		1	
	Salmonella 1,4,5 nonmotile	1						1	
C_1	birkenhead	1						1	
	bradenburg	1						1	
	braenderup	1						1	
	infantis	9	2		4	1		2	
	montevideo	9			1		1	7	
	ohio	1						1	
	oranienburg	22	1	1		3	1	15	1
	oslo	12	4	2	2	1		2	1
	singapore	5		1				4	
	tennessee	2		1				1	
	virchow	3			1	2			
	Salmonella 6,7:5,-	2						2	

TABLE 2 (continued)

INCIDENCE OF SALMONELLA BY TYPE AND AGE
CENTRAL LABORATORY ON OAHU

STATE OF HAWAII - JULY 1987 TO JUNE 1988

Group	Serotype	All Ages Total	Less than Six Months	Six Months to One Year	One Year to Three Years	Three Years to Ten Years	Ten Years to Twenty Years	Twenty Years and Over	Unknown
C_2	albany	7	1		1	1		4	
	blockley	5		1		1	1	2	
	bovis morbificans	1	1						
	hadar	25	2	1	4	2	2	7	7
	kentucky	2				1		1	
	manhattan	1				1			
	muenchen	15	1	2	3			8	1
	newport	31	7	3	1	3	3	13	1
D	berta	4	1		1			1	1
	dublin	1						1	
	enteritidis	11		1		2	2	4	2
	panama	5	1		1			3	
	typhi, phage type A	3	1			2			
	typhi, phage type B_1	3				2		1	
	typhi, phage type E_9	1					1		
	typhi, phage type M_1	7			1	1	4	1	
E_1	anatum	2		1				1	
	give	5	2			1		1	1
	muenster	1						1	
	ughelli	1			1				
	weltevreden	97	29	6	2		3	38	19

TABLE 2 (continued)

INCIDENCE OF SALMONELLA BY TYPE AND AGE
CENTRAL LABORATORY ON OAHU

STATE OF HAWAII - JULY 1987 TO JUNE 1988

Group	Serotype	All Ages Total	Less than Six Months	Six Months to One Year	One Year to Three Years	Three Years to Ten Years	Ten Years to Twenty Years	Twenty Years and Over	Unknown
E_2	binza	1						1	
	drypool	3				1		2	
	havana	4						4	
	lanka	6	3	1				2	
F	aberdeen	1			1				
G_2	worthington	1						1	
I	gaminara	3	2	1					
K	cerro	2		1				1	
S	waycross	1						1	
U	houten	1			1				
	Salmonella O-H:b,7	1		1					
	Salmonella O-H:gms-	2						2	

TABLE 3

INCIDENCE OF SALMONELLA BY TYPE FROM NONHUMAN SOURCES
CENTRAL LABORATORY ON OAHU
STATE OF HAWAII - JULY 1987 TO JUNE 1988

Group	Salmonella Serotype	SOURCE										
		TOTAL	Avian	Bovine	Cockroach	Frog	Equine	Lizard	Porcine	Rat	Turtle	Environment(feed,watet,soil)
B	agona	2	2									
	bredeney	2							2			
	derby	16				2		4	10			
	heidelberg	4	4									
	saint paul	4						4				
	typhimurium	37	24	3			4		4			2
	typhimurium var copenhagen	3	2						1			
C_1	livingstone	1		1								
	mbandaka	2	2									
	montevideo	2						2				
	oslo	2									2	
C_2	albany	9		7					2			
	muenchen	5						4			1	
	newport	2	2									
D	dublin	7		7								
E_1	anatum	12		6				6				
	drypool	3		3								
	give	3						3				
	muenster	4		2					2			
	weltevreden	8	3		5							
E_2	lanka	2		2								
	newington	5							5			
	parow	1		1								
	tubingen	1								1		

TABLE 3 (continued)

INCIDENCE OF SALMONELLA BY TYPE FROM NONHUMAN SOURCES
CENTRAL LABORATORY ON OAHU
STATE OF HAWAII - JULY 1987 TO JUNE 1988

Group	Salmonella Serotype	SOURCE										
		TOTAL	Avian	Bovine	Cockroach	Frog	Equine	Lizard	Porcine	Rat	Turtle	Environment(feed, water, soil)
E_4	senftenberg	2						2				
G_1	havana	1		1								
	worthington	4		4								
K	cerro	1		1								
	Salmonella O-H lv:?	2						2				
	Salmonella subgroup III b (Arizona)	1						1				
	TOTAL	148	39	38	5	2	4	28	26	1	3	2

TABLE 4

INCIDENCE OF PARASITES FROM HUMANS
CENTRAL LABORATORY ON OAHU
STATE OF HAWAII - JULY 1987 TO JUNE 1988

Total Number of Specimens Examined	Total Number of Specimens Positive	Total Number of Parasites Found
200	53	94

INTESTINAL PARASITES FOUND

ORGANISMS	Number Found	ORGANISMS	Number Found
PROTOZOA		HELMINTHS	
Sarcodina (Amebae)		Nematoda (Round Worms)	
Entamoeba histolytica	4	Trichuris trichiura	23
Entamoeba hartmanni	3	Ascaris lumbricoides	11
Entamoeba coli	13	Hookworm	3
Endolimax nana	18	Strongyloides stercoralis	1
Iodamoeba butschlii	1		
Mastigophora (Flagellates)			
Giardia lamblia	5		
Chilomastix mesnili	3		
Blastocystis			
Blastocystis hominis	9		

PUBLIC HEALTH NURSING BRANCH

SUMMARY

The goals of public health nursing practice are health promotion and primary prevention. To accomplish these goals, public health nurses worked collaboratively with Department of Health programs and public and private agencies to help Hawaii's residents attain and maintain optimal health.

Fiscal Year 1988 was an exciting and challenging year with several highlights. Participation in the Department s reorganization plans brought about strengthening the community health nursing discipline and the formation of a Community Health Nursing Group. The focus is to bring together the Department's nurses working in the community to optimize nursing resources and minimize duplication and fragmentation of community nursing services.

Healthy Start Projects on Maui and Molokai were initiated during the year. High risk families referred by the Projects received nursing services to erhance their knowledge base and develop parenting and child care skills. In FY 1989, the Waianae Healthy Start Project will be initiated with public health nursing involvement.

The program has continued to train more public health nurses and professional staff of the Developmental Disabilities Division in NCAST (Nursing Child Assessment Satellite Training) to provide a higher level assessment with appropriate care planning for children and their families who are at risk. Those who profit from this activity include: infants discharged from Neonatal Intensive Care Units, children who are confirmed or suspected of abuse and/or neglect, those who are or suspected of being developmentally delayed or are experiencing health deficiencies, babies of drug dependent mothers, and those infants who require close monitoring.

In collaboration with the Department's EPSDT (Early Periodic Screening Development Testing) program, Maternal and Child Health Branch, a revised approach in reaching out and serving Medicaid eligible children was initiated. Public health nurses will be working closely with physician continuous care providers under this arrangement.

In addition, the Branch actively participated in establishing the Tri-Agency Project addressing services to abused or neglected children and their families in West Hawaii. Another collaborative undertaking between service Departments was the formation of Local Cluster Groups. These groups evaluate difficult service management cases of children with severe and multiple physical/functional deficits or are severely mentally/emotionally ill. Two PHN supervisors were selected to chair these groups.

The Branch, despite its high vacancy rate during the year through staff turnovers, recruitment delays, and the nursing shortage, provided nursing services to 73,603 residents. Services were provided through 77,298 home and office visits; 63,929 telephone visits; 462 school visits; 326 day care visits; 688 adult residential care home visits; 4,289 clinic sessions; 1795 well child conferences; and 426 group education sessions.

Table 1 shows the number of cases admitted to ongoing services statewide and the total visits made. Although there was a 2.6% increase in the caseload, the number of visits increased by 8.4% over FY 87. More visits per case were made to those with disabilities and/or pathological conditions over those who received Health Guidance services.

Tables 2 and 6 provide data associated with clinics. The data covers twenty different types of clinics with clinic services to well children and tuberculin testing showing the most activity.

Tables 3, 4, and 5 show statistics related to specific age groups, school age children, preschool age children, and the elderly, respectively.

Table 7 represents the number of group education sessions and attendance to the twelve subject area sessions.

TABLE I

CASES ADMITTED TO PUBLIC HEALTH NURSING SERVICE AND VISITS MADE BY COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Type of Nursing Services	State		Oahu		Hawaii		Kauai		Maui	
	Cases a/	Visits b/	Cases a/	Visits b/	Cases a/	Visits b/	Cases a/	Visits b/	Cases a/	Visits b/
Maternity	825	2,284	454	1,562	52	104	200	321	119	297
Infant and Preschool Child Health	16,283	56,823	8,176	35,910	3,659	9,522	1,359	3,131	3,089	8,260
School Aged Child c/	1,736	5,365	1,083	3,769	185	469	191	374	277	753
Adult and Elderly Health	3,765	9,576	1,893	5,326	153	541	1,113	1,903	606	1,806
Tuberculosis d/	6,022	17,995	3,079	6,904	993	4,285	532	938	1,418	5,868
Hansen's Disease	494	2,390	232	1,445	102	412	31	245	129	288
Other Communicable Disease d/	140	366	81	241	12	18	-	4	47	103
Developmentally Disabled Children	890	9,633	606	7,077	138	1,379	44	332	102	845
Other Handicapped Children	1,201	15,133	658	10,088	270	2,508	87	841	186	1,696
Chronic Diseases	2,238	21,624	1,250	8,913	310	8,105	157	1,123	521	3,483
Emotional Problems	284	1,445	210	904	17	108	5	37	52	396
All Others	129	1,005	79	743	4	30	3	32	43	200
Not Home/Not Found	77	1,855	45	1,397	12	175	5	88	15	195
TOTALS	34,084	145,494	17,846	84,279	5,907	27,656	3,727	9,369	6,604	24,190

a/ Cases: Individuals admitted to nursing service for a particular condition.
b/ Visits: Personal contacts with health content.
c/ Health Guidance Only. Excludes visits to school children in other diagnostic categories.
d/ Includes diagnosed cases and contacts.

TABLE 2

CLINICS CONDUCTED BY PUBLIC HEALTH NURSING SERVICE BY TYPE OF CLINIC, NUMBER OF SESSIONS AND ATTENDANCE BY COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Type of Clinic	State		Oahu		Hawaii		Kauai		Maui	
	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance
Well Child	1,795	24,735	766	11,747	584	7,241	149	1,654	296	4,093
School	35	1,208	14	510	13	481	3	109	5	108
Day Care	5	97	5	97	-	-	-	-	-	-
Adult and Elderly Health	443	6,335	152	3,395	10	418	213	1,453	68	1,069
Cardiac a/	34	386	9	100	15	196	4	49	6	41
Neurology	20	119	-	-	19	116	-	-	1	3
Other Crippled Children Including Pediatric a/	3	27	-	-	2	18	-	-	1	9
Tuberculosis Testing	1,652	62,705	618	37,824	392	8,344	263	7,407	379	9,130
Tuberculosis Diagnosis and Treatment	163	2,472	-	-	8	15	109	747	46	1,710
Leprosy	21	260	9	119	7	88	-	-	5	53
Other Communicable Disease	1	39	1	39	-	-	-	-	-	-
Immunization	20	173	4	60	10	66	2	15	4	32
Blood Pressure Screening	61	1,703	3	49	-	-	58	1,654	-	-
Others	36	186	19	112	14	69	-	-	3	5
TOTALS	4,289	100,445	1,600	54,052	1,074	17,052	801	13,0[illegible]	814	16,253

a/ See Crippled Children Data

TABLE 3

PUBLIC HEALTH NURSING SERVICE TO SCHOOLS AND SCHOOL AGE CHILDREN BY COUNTY a/
STATE OF HAWAII

FISCAL YEAR 1988

Type of Activity	State	Oahu	Hawaii	Kauai	Maui
Visits to Schools b/	462	209	89	98	66
Visits to School Age Children c/	15,363	10,197	1,979	807	2,380
TOTALS	15,825	10,406	2,068	905	2,446

a/ Excludes public schools.
b/ All service programs.
c/ Outside of school environment.

TABLE 4

PUBLIC HEALTH NURSING SERVICES IN DAY CARE CENTERS AND PRESCHOOL AGE CHILDREN BY COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Type of Activity	State	Oahu	Hawaii	Kauai	Maui
Visits to Day Care Centers	326	156	68	44	58
Visits to Preschool Age Children	39,720	26,082	6,343	1,868	5,427
TOTALS	40,046	26,238	6,411	1,912	5,485

TABLE 5

PUBLIC HEALTH NURSING SERVICE TO ADULT RESIDENTIAL CARE HOMES & ELDERLY BY COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Type of Activity	State	Oahu	Hawaii	Kauai	Maui
Visits to Adult Residential Care Homes	688	415	142	94	37
Visits to Elderly (60 years and over) a/	34,496	15,446	8,824	4,065	6,161
TOTALS	35,184	15,861	8,966	4,159	6,198

a/ Addresses only Health Guidance and Chronic Disease categories.

TABLE 6

CHILD HEALTH CLINICS BY TYPE OF CLINIC, NUMBER OF SESSIONS, ATTENDANCE AND COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Type of Clinics	State		Oahu		Hawaii		Kauai		Maui	
	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance
Medical	443	9,088	311	5,814	82	2,190	23	578	27	506
Nursing	1,352	15,647	455	5,933	502	5,051	126	1,076	269	3,587
TOTALS	1,795	24,735	766	11,747	584	7,241	149	1,654	296	4,093

TABLE 7

GROUP EDUCATION SESSIONS CONDUCTED BY PUBLIC HEALTH NURSING SERVICE BY SUBJECT, NUMBER OF SESSIONS, ATTENDANCE AND COUNTY
STATE OF HAWAII

FISCAL YEAR 1988

Subject	State		Oahu		Hawaii		Kauai		Maui	
	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance	Session	Attendance
Maternal and Child Health	27	219	25	214	2	5	-	-	-	-
Public Health/ Public Health Nursing	19	672	16	593	-	-	2	29	1	50
Chronic Disease	7	82	1	10	3	24	-	-	3	48
Communicable Disease	15	301	5	84	6	85	3	32	1	100
Nutrition	7	148	6	123	1	25	-	-	-	-
Family Planning	1	9	1	9	-	-	-	-	-	-
School Health	8	256	6	144	2	112	-	-	-	-
Adult Health	1	60	-	-	1	60	-	-	-	-
Wellness	20	480	20	480	-	-	-	-	-	-
Geriatrics	237	4,725	6	63	-	-	178	4,154	53	508
Hypertension--Firefighters	2	29	2	29	-	-	-	-	-	-
Other	82	1,222	37	671	5	74	4	67	36	410
TOTALS	426	8,203	125	2,420	20	385	187	4,282	94	1,116

NUTRITION BRANCH

SUMMARY

With emphasis on prevention, the Nutrition Branch strives to promote optimal nutritional status and to reduce the risk of disease associated with diet through nutrition education, early detection and intervention. Nutrition is one of the key factors in the promotion of health, in the prevention of disease and improving the quality of life.

Services of the Nutrition Branch include:

- Nutrition education for the public through talks and worksite programs.
- Nutrition screening and assessment.
- Consultations to agencies and individuals.
- Inspections of hospitals, other medical facilities, and adult residential care homes.

Accurate and current nutrition information is provided through pamphlets, news articles, talks at worksites, to community and student groups, workshops, exhibits at health fairs, T.V. and radio programs, and telephone calls.

Nutrition consultations and direct services are provided to programs within the department, other governmental agencies, community and professional groups, and the general public. The Public Health Nutritionists participate as members of a team for the licensure of hospitals, skilled nursing and intermediate care facilities, special treatment facilities and adult residential care homes to assure that dietary standards are met according to State and Federal regulations.

The Special Supplemental Food Program for Women, Infants and Children (WIC Program) funded by the United States Department of Agriculture is administered by the Nutrition Branch. Nutrition screening and assessment, nutrition education and nutritious foods are provided to low income pregnant women, nursing mothers, infants and children up to age 5, who are at nutritional risk. In 1988, the WIC Program provided food vouchers to an average of 11,684 participants each month. This was an increase of 12% as in the number of participants from 10,366 to 11,684. Nutrition assessment and diet counseling is ongoing and the total number of contacts was 138,548.

The WIC Program is participating in the Pediatric Nutrition Surveillance in cooperation with the Centers for Disease Control. Table II summarizes the prevalence of abnormal conditions in infants and children from birth to age 5 by counties. Figures 1 and 2 indicate the nutrition risk trends from 1983-1988.

TABLE I
NUTRITION BRANCH SERVICES
STATE OF HAWAII - 1988

Type of Nutrition Services	Number of Sessions	Number Reached or Participants
Nutrition Education		
Talks to community groups, including senior citizens	62	3,268
Talks to students	40	2,545
Workshops	40	809
Radio and TV	25	
Health Fairs	16	
Consultations and Inspections	Number	
Care Homes		
Inspections	366	
Consultations and Visits	71	
Hospitals, Skilled Nursing Facilities and Intermediate Care Facilities		
Medicare Certifications	64	
Consultations	14	
Special Treatment Facilities		
Inspections	12	
Consultations and Visits	7	
Other Agencies and Individuals		
Consultations	2,754	
Department of Health		
Consultations	437	
Nutrition Assessement and Diet Counseling	Number	
Special Supplement Food Program for Women, Infant and Children (WIC)	138,548*	

* Participants receive nutrition assessment and diet counseling three or more times a year.

TABLE II
HAWAII PEDIATRIC NUTRITION SURVEILLANCE
01/01/88 TO 12/31/88

COUNTY	TOTAL EXAM	HT/AGE < 5TH			WT/HT < 5TH			WT/HT > 95TH			LOW BIRTH WT			HGB/AGE < 5TH			HCT/AGE < 5TH		
		EXAM	LOW	PCT	EXAM	LOW	PCT	EXAM	HIGH	PCT	EXAM	LOW	PCT	EXAM	LOW	PCT	EXAM	LOW	PCT
Hawaii	2195	2151	257	11.9	2088	92	4.4	2088	148	7.1	759	67	8.8	1404	18	1.3	881	24	2.7
Oahu	7788	6922	790	1.4	6871	320	4.7	6871	479	7.0	6454	724	11.2	4616	131	2.8	3010	189	6.3
Kauai	327	264	53	20.1	260	24	9.2	260	13	5.0	185	25	13.5	180	9	5.0	42	1	*
Maui	985	922	113	12.3	909	44	4.8	909	74	8.1	357	33	9.2	701	11	1.6	32	1	*
STATE TOTAL	11295	10259	1213	11.8	10128	480	4.7	10128	714	7.0	7755	849	10.9	6901	169	2.4	3965	215	5.4

*Value does not meet standards of reliability or precision.

1988 PEDIATRIC NUTRITION SURVEILLANCE
HAWAII
ANTHROPOMETRIC TRENDS

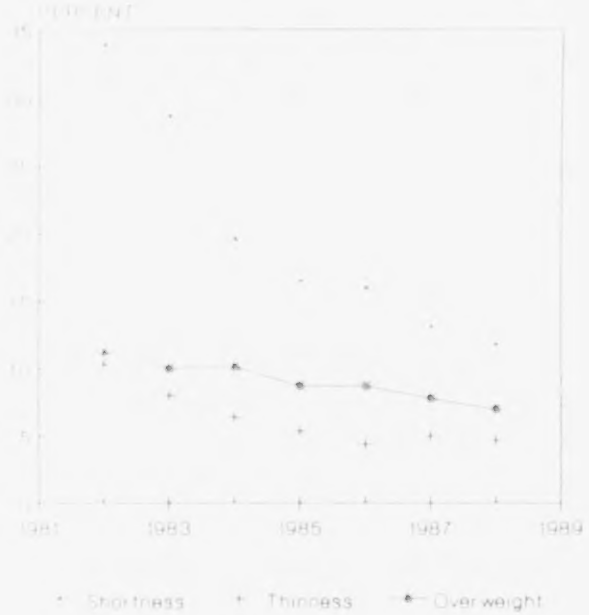


FIGURE 1

DATA FROM CDC/PEDNSS TABLE 11

1988 PEDIATRIC NUTRITION SURVEILLANCE
HAWAII
HEMATOLOGIC TRENDS

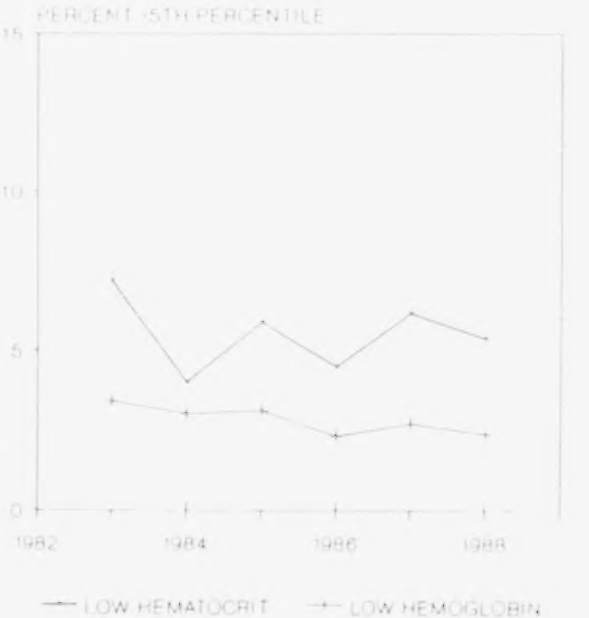


FIGURE 2

DATA FROM CDC/PEDNSS TABLE 11

HOSPITAL AND MEDICAL FACILITIES BRANCH

The Hospital and Medical Facilities Branch focuses on assuring the appropriateness and quality of care given to clients in medical or health care related facilities.

To do this, the Branch develops rules and regulations governing their structures and functions, ranging from the governing body to patients' rights to actual care given, these rules being authorized by the Legislature and passing through public hearing before adoption.

The Branch serves as the arm for State licensing of all health care facilities as well as for certification of the facilities for participation in Federal Medicare and Medicaid programs. It receives, investigates and takes appropriate action with respect to charges or complaints of failure of facilities or agencies to comply with State and Federal rules or standards.

To enforce both State and Federal rules, the Branch conducts licensing and follow-up surveys and complaint investigations using especially trained multidisciplinary teams of specialist surveyors.

Facilities which are required to undergo both the licensing and certification processes fall under the Medicare section of the Branch and include, in the order of intensity of care necessary acute care hospitals, skilled nursing facilities, intermediate care facilities, independent laboratories, and community-based facilities such as intermediate care facilities for the mentally retarded, end-stage renal dialysis centers, various rehabilitation services, home health services, freestanding surgical outpatient facilities, hospice, adult day health care facilities.

An equally important Licensing Section of the Branch surveys and issues State licenses only for facilities and services unique to Hawaii such as adult residential care homes for frail and dependent persons, and special treatment facilities which provide care primarily for alcohol and drug abuse.

Complaints regarding care or any other violations by licensed or certified facilities are promptly investigated by the Branch in cooperation with the Ombudsman's Office, Executive Office on Aging, Department of Human Services, and Protection and Advocacy Agency. At least one "hot line" to receive such complaints will be established in 1989.

Tables showing the number of facilities and beds under each category for the State and its Counties are given in this section along with a 2-year comparison with 1986 and 1988 to reflect growth and changes in the health care delivery system.

For the lists of bed capacities and other factors such as census and lengths of stay of various institutions reflecting acute care, long-term care and specialty care hospitals or facilities in all Counties, please refer to the report of the State Health Planning and Development Agency.

The trend toward converting institutional care to community-based care is reflected in the following tables as intermediate care facilities for the mentally retarded continue to expand. There is some indication saturation levels may be appearing as community placement becomes more difficult. A reduction in care homes primarily reflects withdrawal of amalgamated boarding homes which could not qualify for licensure by a 1988 deadline. It is not reflective of a trend.

The backup of long-term care level persons into acute care facilities is reflected in the State Health Planning and Development Agency report. This situation is putting pressure on community placement facilities, Adult Residential Care Homes particularly, to accept more heavily involved clients, and upon nursing homes which are also near saturation in occupancy. As a result, new categories of care, such as "sub-acute" care, and "case mix" reimbursement systems are being considered.

It is anticipated that congressionally ordered changes in the entire system of health care delivery, particularly long-term care, through the Omnibus Budget Reconciliation Act of 1987 (OBRA '87) will drastically change the system. The Branch is heavily involved in implementing OBRA's various conditions which become effective at intervals ranging from January 1, 1989, to October 1990 and 1992. It is predicted that Federal survey activities will increase by 50% as a result of these changes. Whether such changes will result in better care is debatable.

TABLE 1
CHANGES IN TYPES AND NUMBER OF FACILITIES BY ISLAND
STATE OF HAWAII, 1987-1988

Type of Facility	State Total			Oahu			Hawaii			Kauai			Lanai			Maui			Molokai		
	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change
Hospitals	27	27	--	15	15	--	5	5	--	3	3	--	1	1	--	2	2	--	1	1	--
Skilled Nursing Intermediate Care	37	40	+8	22	24	+9	6	6	--	4	5	+25	1	1	--	3	3	--	1	1	--
Intermediate Care Facilities/MR	18	20	+11	17	18	+6	--	--	--	--	1	+100	--	--	--	1	1	--	--	--	--
Special Treatment Facilities	14	15	+7	10	11	+10	1	1	--	1	1	--	--	--	--	2	2	--	--	--	--
Independent Laboratories	29	29	--	22	22	--	3	3	--	--	--	--	--	--	--	4	4	--	--	--	--
Home Health Agencies	17	18	+6	9	10	+11	4	4	--	1	1	--	1	1	--	1	1	--	1	1	--
End-Stage Renal Disease	10	11	+10	6	7	+17	2	2	--	1	1	--	--	--	--	1	1	--	--	--	--
Adult Residential Care Homes	574	530	-8	450	421	-6	60	53	-12	36	28	-22	--	--	--	18	17	-6	10	10	--
Independent Rehabilitation Facilities	3	3	--	1	1	--	2	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Freestanding Outpatient Surgical Facilities	7	8	+14	6	6	--	--	--	--	--	1	+100	--	--	--	1	1	--	--	--	--
Adult Day Health Centers	4	4	--	3	3	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Hospice	3	3	--	2	2	--	--	--	--	1	1	--	--	--	--	--	--	--	--	--	--

TABLE 2
CHANGES IN BED COUNT IN FACILITIES BY ISLAND
STATE OF HAWAII, 1987 - 1988

Type of Facility	State Total			Oahu			Hawaii			Kauai			Lanai			Maui			Molokai		
	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change	1987	1988	%Change
Hospitals	2919	2893	-1	2360	2347	-1	264	274	+4	122	119	-2	6	6	--	151	151	--	16	16	--
Skilled Nursing/ Intermediate Care	2988	3255	+9	2036	2277	+12	400	408	+2	191	209	+9	8	8	--	339	339	--	14	14	--
Intermediate Care Facilities/MR	297	309	+4	289	297	+3	--	--	--	--	4	+400	--	--	--	8	8	--	--	--	--
Special Treatment Facilities	483	472	-2	402	384	-4	13	20	+54	12	12	--	--	--	--	56	56	--	--	--	--
Adult Residential Care Homes	2809	2669	5	2260	2186	-3	249	215	-14	179	140	-22	--	--	--	73	72	-1	48	56	+17

TABLE 3
TYPES*, NUMBER AND BED COUNT OF ADULT RESIDENTIAL CARE HOMES BY ISLAND
STATE OF HAWAII, 1988

	State Total			Oahu			Hawaii			Kauai			Maui			Molokai		
	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total
Number	16	514	530	11	410	421	1	52	53	3	25	28	0	17	17	1	10	11
Bed Count	481	2188	2669	402	1784	2186	13	202	215	52	88	140	0	72	72	14	42	56

* TYPE II - More than five beds
I - Five beds or less

MENTAL HEALTH DIVISION

MENTAL HEALTH DIVISION

The Mental Health Division provides both inpatient and outpatient services for a wide range of problems affecting disparate populations. The utilization patterns of services provide significant leads to understanding the nature, severity, and determinants of mental illness.

It is important to note that the tables in this year's statistical report as well as prior years, with the exception of 1984, are summarized by calendar year. The 1984 annual statistical data was summarized by fiscal year because of a one time change necessitated by a database conversion from the batch oriented Multi-State Information System (MSIS) to the online, network oriented Mental Health Field Assessment and Statistical Information System (MFASIS) which was completed in 1985.

The tables from calendar year 1985 and on have been completely redesigned and are different from that of all previously publishsed annual reports. The 1974 through 1981 reports examined demographic statistical information related to diagnosis, and the 1982 through 1984 reports displayed demographic information related to problems on admission.

Table 1 shows the Mental Health Division Movement Summary for the period 1975 - 1988 of actives, admissions, terminations, and unduplicated counts of clients.

Table 2 represents the total active clients as of the end of the year by age and Community Mental Health Centers.

Table 3 displays figures on admissions for the year by age and Community Mental Health Centers.

Table 4 displays demographic characteristics of clients served by ethnicity, age and sex for the entire year.

Table 5 shows demographic characteristics of clients admitted, active, and discharged for the year broken down by ethnicity.

Table 6 represents the referral source of admissions during the year by referral source, and the number of new admissions and readmissions.

Table 7 shows the reasons why a client was discharged.

Mental Health Field Assessment and Statistical Information System

MENTAL HEALTH DIVISION MOVEMENT SUMMARY, 1975 - 1988
TABLE 1

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984*	1985	1986	1987	1988
Unduplicated Count of Patients Served	11101	11935	11806	11642	10713	10625	10689	10312	9970	9724	8891	8342	8220	8389
Actives	7090	6979	6905	6886	6392	6328	6642	6287	6022	5692	6328	5852	5754	5234
Admissions	5233	5533	5453	5441	4564	4696	4947	4885	4761	4307	3933	3826	3678	3694
Terminations	4633	5684	5529	5522	5057	4759	5062	5155	5030	4887	4221	3725	3452	4193

*For the Fiscal Year 1984 (7/1/83 to 6/30/84).

Mental Health Field Assessment and Statistical Information System
Age Summary Report
DEMOGRAPHIC CHARACTERISTICS OF ACTIVE CLIENTS
TABLE 2*

Division

As of: 12/31/88

Center:	Oahu-Other Services		Central Oahu CMHC		Windward Oahu CMHC		Leeward Oahu CMHC		Diamond Head CMHC		Kalihi Palama CMHC		Maui CMHC		East Hawaii CMHC	
	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/
AGE																
0 - 11			54	10.3	114	21.7	47	8.9	30	5.7	80	15.2	34	6.5	43	8.2
12 - 17			33	6.2	63	11.8	51	9.6	26	4.9	62	11.6	56	10.5	84	15.7
18 - 39			166	7.0	127	5.4	210	8.9	238	10.1	240	10.2	273	11.6	144	6.1
40 - 59	1	0.1	107	7.8	96	7.0	123	8.9	160	11.6	194	14.1	151	10.9	109	7.9
60 and over			42	7.8	42	7.8	80	14.8	80	14.8	66	12.2	37	6.9	54	10.0
Unknown																
Total	1		402	7.5	442	8.3	511	9.6	534	10.0	642	12.0	551	10.3	434	8.1

Center:	West Hawaii CMHC		Kauai CMHC		North Hawaii CMHC		Hawaii State Hosp.		Waianae MHC		Other		Total	
	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% b/
AGE														
0 - 11			39	7.4			15	2.9	32	6.1	38	7.2	526	9.9
12 - 17	1	0.2	33	6.2			11	2.1	65	12.2	49	9.2	534	10.0
18 - 39	195	8.3	253	10.7	37	1.6	159	6.7	208	8.8	108	4.6	2358	44.2
40 - 59	99	7.2	128	9.3	23	1.7	62	4.5	81	5.9	46	3.3	1380	25.9
60 and over	25	4.6	55	10.2	7	1.3	13	2.4	17	3.2	21	3.9	539	10.1
Unknown											1	100.0	1	c/
Total	320	6.0	508	9.5	67	1.3	260	4.9	403	7.5	263	4.9	5338	100.0
Unduplicated total													5234	

*Numbers may not add up due to rounding.
a/ Percentage of Row.
b/ Percentage of Column.
c/ Less than .1 percent.

Mental Health Field Assessment and Statistical Information System

Age Summary Report
DEMOGRAPHIC CHARACTERISTICS OF ADMISSION BY UNITS
TABLE 3*

Division

From: 01/01/88 To: 12/31/88

Center	Central Oahu CMHC		Windward Oahu CMHC		Leeward Oahu CMHC		Diamond Head CMHC		Kalihi Palama CMHC		Maui CMHC		East Hawaii CMHC	
	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/
AGE														
0 - 11	56	13.2	68	16.0	28	6.6	69	16.2	51	12.0	18	4.2	25	5.9
12 - 17	47	11.4	27	6.6	22	5.4	77	18.7	35	8.5	17	4.1	22	5.4
18 - 39	144	7.1	78	3.9	166	8.2	256	12.7	184	9.1	125	6.2	66	3.3
40 - 59	27	3.9	29	4.2	49	7.1	82	11.8	84	12.1	37	5.3	31	4.5
60 and over	9	6.2	5	3.4	8	5.5	16	11.0	25	17.1	3	2.1	11	7.5
Unknown														
Total	283	7.7	207	5.6	273	7.4	500	13.5	379	10.3	200	5.4	155	4.2

Center:	West Hawaii CMHC		Kauai CMHC		North Hawaii CMHC		Hawaii State Hospital		Waianae MHC		Other		Total	
	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% a/	#	% b/
AGE														
0 - 11			29	6.8			37	8.7	28	6.6	16	3.8	425	11.5
12 - 17	3	0.7	37	9.0			65	15.8	48	11.7	11	2.7	411	11.1
18 - 39	113	5.6	152	7.5	36	1.8	524	26.0	142	7.0	30	1.5	2016	54.6
40 - 59	30	4.3	71	10.2	18	2.6	200	28.9	29	4.2	6	0.9	693	18.8
60 and over	4	2.7	20	13.7	3	2.1	35	24.0	5	3.4	2	1.4	146	4.0
Unknown			2	66.7			1	33.3					3	0.1
Total	150	4.1	311	8.4	57	1.5	862	23.3	252	6.8	65	1.8	3694	100.0
Unduplicated total													3147	

*Numbers may not add up due to rounding.
a/ Percent of Row.
b/ Percent of Column.

Mental Health Field Assessment and Statistical Information System

ETHNIC SUMMARY REPORT BY AGE AND SEX
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS SERVED BY AGE AND SEX
TABLE 4*

DIVISION

Period: 01/01/88 thru 12/31/88

	0 — 11						12 — 17						18 — 39					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
ETHNICITY	#	% a/	#	% a/	#	% b/	#	% a/	#	% a/	#	% b/	#	% a/	#	% a/	#	% b/
Alaskan Native	1	50.0	1	50.0	2	20.0			1	100.0	1	10.0	4	80.0	1	20.0	5	50.0
American Indian	1	100.0			1	2.2	5	62.5	3	37.5	8	17.8	15	53.6	13	46.4	28	62.2
Black	22	73.3	8	26.7	30	17.2	9	52.9	8	47.1	17	9.8	57	62.6	34	37.4	91	52.3
Cambodian	3	100.0			3	13.0	1	50.0	1	50.0	2	8.7	5	41.7	7	58.3	12	52.2
Caucasian	188	79.3	49	20.7	237	10.2	126	69.2	56	30.8	182	7.9	667	54.6	555	45.4	1222	52.8
Chinese	12	80.0	3	20.0	15	5.7	16	64.0	9	36.0	25	9.5	69	54.3	58	45.7	127	48.5
Cuban																		
Fijian	1	100.0			1	20.0							3	100.0			3	60.0
Filipino	60	90.9	6	9.1	66	7.3	57	71.3	23	28.8	80	8.8	290	60.4	190	39.6	480	53.0
Hawaiian	27	87.1	4	12.9	31	11.2	16	64.0	9	36.0	25	9.0	86	62.3	52	37.7	138	49.6
Japanese	49	84.5	9	15.5	58	5.0	46	66.7	23	33.3	69	6.0	276	62.9	163	37.1	439	37.9
Korean	3	60.0	2	40.0	5	4.2	6	60.0	4	40.0	10	8.4	24	42.9	32	57.1	56	47.1
Laotian			1	100.0	1	12.5	1	50.0	1	50.0	2	25.0	4	80.0	1	20.0	5	62.5
Mexican	5	83.3	1	16.7	6	16.2	2	66.7	1	33.3	3	8.1	9	45.0	11	55.0	20	54.1
Micronesian			1	100.0	1	9.1							5	62.5	3	37.5	8	72.7
Mixed	122	77.2	36	22.8	158	28.9	81	63.8	46	36.2	127	23.3	108	57.8	79	42.2	187	34.2
Okinawan	2	40.0	3	60.0	5	11.6							14	63.6	8	36.4	22	51.2
Part Hawaiian	171	81.0	40	19.0	211	15.9	137	63.4	79	36.6	216	16.2	382	57.4	284	42.6	666	50.1
Portuguese	20	76.9	6	23.1	26	6.7	21	77.8	6	22.2	27	7.0	124	67.4	60	32.6	184	47.7
Puerto Rican	12	92.3	1	7.7	13	8.7	13	59.1	9	40.9	22	14.8	41	65.1	22	34.9	63	42.3
Samoan	15	93.8	1	6.3	16	9.7	29	76.3	9	23.7	38	23.0	59	62.8	35	37.2	94	57.0
Tongan	1	33.3	2	66.7	3	20.0	1	25.0	3	75.0	4	26.7	6	85.7	1	14.3	7	46.7
Vietnamese	3	100.0			3	10.3	3	100.0			3	10.3	11	68.8	5	31.3	16	55.2
Other Asian													5	38.5	8	61.5	13	92.9
Other Hispanic	4	80.0	1	20.0	5	10.6	6	100.0			6	12.8	17	68.0	8	32.0	25	53.2
Other Pac Isle	3	100.0			3	27.3	2	66.7	1	33.3	3	27.3	2	66.7	1	33.3	3	27.3
Other + Unknown	44	73.3	16	26.7	60	4.3	61	70.9	25	29.1	86	6.2	622	74.3	215	25.7	837	60.0
TOTAL	769	80.1	191	19.9	960	10.1	639	66.8	317	33.2	956	10.1	2905	61.1	1846	38.9	4751	50.1
Unduplicated Total	735	79.8	186	20.2	921	11.0	604	67.0	298	33.0	902	10.8	2446	59.5	1667	40.5	4113	49.0

*Numbers may not add up due to rounding.
a/ Percentage of row within age group.
b/ Percentage of row total.

Mental Health Field Assessment and Statistical Information System

ETHNIC SUMMARY REPORT BY AGE AND SEX
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS SERVED BY AGE AND SEX
TABLE 4*
(continued)
DIVISION

Period: 01/01/88 thru 12/31/88

	40 — 59						60+						TOTAL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
ETHNICITY	#	% a/	#	% a/	#	% b/	#	% a/	#	% a/	#	% b/	#	% c/	#	% c/	#	% d/
Alaskan Native			1	100.0	1	10.0	1	100.0			1	10.0	6	60.0	4	40.0	10	0.1
American Indian	1	12.5	7	87.5	8	17.8							22	48.9	23	51.1	45	0.5
Black	17	63.0	10	37.0	27	15.5	7	77.8	2	22.2	9	5.2	112	64.4	62	35.6	174	1.8
Cambodian			4	100.0	4	17.4	1	50.0	1		2	8.7	10	43.5	13	56.5	23	0.2
Caucasian	257	45.4	309	54.6	566	24.4	47	43.1	62	56.9	109	4.7	1285	55.5	1031	44.5	2316	24.4
Chinese	27	44.3	34	55.7	61	23.3	15	44.1	19	55.9	34	13.0	139	53.1	123	46.9	262	2.8
Cuban							1	100.0			1	100.0	1	100.0			1	e/
Fijian	1	100.0			1	20.0							5	100.0			5	0.1
Filipino	107	48.9	112	51.1	219	24.2	37	61.7	23	38.3	60	6.6	551	60.9	354	39.1	905	9.5
Hawaiian	33	54.1	28	45.9	61	21.9	9	39.1	14	60.9	23	8.3	171	61.5	107	38.5	278	2.9
Japanese	173	46.0	203	54.0	376	32.5	85	39.5	130	60.5	215	18.6	629	54.4	528	45.6	1157	12.2
Korean	19	52.8	17	47.2	36	30.3	2	16.7	10	83.3	12	10.1	54	45.4	65	54.6	119	1.3
Laotian													5	62.5	3	37.5	8	0.1
Mexican	6	75.0	2	25.0	8	21.6							22	59.5	15	40.5	37	0.4
Micronesian	1	100.0			1	9.1	1	100.0			1	9.1	7	63.6	4	36.4	11	0.1
Mixed	25	36.2	44	63.8	69	12.6	2	40.0	3	60.0	5	0.9	338	61.9	208	38.1	546	5.8
Okinawan	4	36.4	7	63.6	11	25.6	1	20.0	4	80.0	5	11.6	21	48.8	22	51.2	43	0.5
Part Hawaiian	93	46.3	108	53.7	201	15.1	14	38.9	22	61.1	36	2.7	797	59.9	533	40.1	1330	14.0
Portuguese	52	53.6	45	46.4	97	25.1	25	48.1	27	51.9	52	13.5	242	62.7	144	37.3	386	4.1
Puerto Rican	26	60.5	17	39.5	43	28.9	3	37.5	5	62.5	8	5.4	95	63.8	54	36.2	149	1.6
Samoan	10	62.5	6	37.5	16	9.7	1	100.0			1	0.6	114	69.1	51	30.9	165	1.7
Tongan	1	100.0			1	6.7							9	60.0	6	40.0	15	0.2
Vietnamese	3	75.0	1	25.0	4	13.8			3	100.0	3	10.3	20	69.0	9	31.0	29	0.3
Othr Asian									1	100.0	1	7.1	5	35.7	9	64.3	14	0.1
Other Hispanic	3	37.5	5	62.5	8	17.0	1	33.3	2	66.7	3	6.4	31	66.0	16	34.0	47	0.5
Other Pac Isle			1	100.0	1	9.1			1	100.0	1	9.1	7	63.6	4	36.4	11	0.1
Other + Unknown	213	65.3	113	34.7	326	23.4	45	51.7	42	48.3	87	6.2	985	70.6	411	29.4	1396	14.7
TOTAL	1072	50.0	1074	50.0	2146	22.6	298	44.5	371	55.5	669	7.1	5683	59.9	3799	40.1	9482	
Unduplicated Total	928	50.4	914	49.6	1842	22.0	268	43.9	343	56.1	611	7.3	4981	59.4	3408	40.6	8389	

*Numbers may not add up due to rounding.
a/ Percentage of row within age group.
b/ Percentage of row total.
c/ Percentage of males/females for this ethnic total.
d/ Percentage of column total.
e/ Less than .1 percent.

Mental Health Field Assessment and Statistical Information System
ETHNIC SUMMARY REPORT
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS ADMITTED, ACTIVE, AND DISCHARGED
TABLE 5*

DIVISION

Period: 01/01/88 thru 12/31/88

	Carryover		New Admits		Readmits		Discharge		Net Total		Total	
Ethnic Group	#	% a/	#	% a/	#	% a/	#	% b/	#	c/	#	% c/
Alaskan Native	6	60.0	3	30.0	1	10.0	5	50.0	5	0.1	10	0.1
American Indian	26	57.8	12	26.7	7	15.6	23	51.1	22	0.4	45	0.5
Black	73	42.0	54	31.0	47	27.0	100	57.5	74	1.4	174	1.8
Cambodian	7	30.4	12	52.2	4	17.4	7	30.4	16	0.3	23	0.2
Caucasian	1190	51.4	668	28.8	459	19.8	1089	47.0	1228	23.0	2317	24.4
Chinese	145	55.3	61	23.3	56	21.4	123	46.9	139	2.6	262	2.8
Cuban			1	100.0			1	100.0			1	d/
Fijian	4	80.0	1	20.0			3	60.0	2		5	0.1
Filipino	560	61.8	195	21.5	151	16.7	321	35.4	585	10.9	906	9.5
Hawaiian	155	55.8	69	24.8	54	19.4	118	42.4	160	3.0	278	2.9
Japanese	808	69.8	124	10.7	225	19.4	362	31.3	795	14.9	1157	12.2
Korean	66	55.5	22	18.5	31	26.1	54	45.4	65	1.2	119	1.3
Laotian	2	25.0	5	62.5	1	12.5	2	25.0	6	0.1	8	0.1
Mexican	17	45.9	10	27.0	10	27.0	14	37.8	23	0.4	37	0.4
Micronesian	7	63.6	4	36.4			3	27.3	8	0.1	11	0.1
Mixed	282	51.6	155	28.3	110	20.1	241	44.1	306	5.7	547	5.8
Okinawan	33	76.7	5	11.6	5	11.6	14	32.6	29	0.5	43	0.5
Part Hawaiian	718	53.9	295	22.2	318	23.9	522	39.2	809	15.1	1331	14.0
Portuguese	254	65.8	56	14.5	76	19.7	153	39.6	233	4.4	386	4.1
Puerto Rican	84	56.4	27	18.1	38	25.5	59	39.6	90	1.7	149	1.6
Samoan	73	44.0	34	20.5	59	35.5	81	48.8	85	1.6	166	1.7
Tongan	2	13.3	7	46.7	6	40.0	9	60.0	6	0.1	15	0.2
Vietnamese	12	41.4	13	44.8	4	13.8	14	48.3	15	0.3	29	0.3
Other Asian	3	21.4	9	64.3	2	14.3	3	21.4	11	0.2	14	0.1
Other Hispanic	24	51.1	11	23.4	12	25.5	17	36.2	30	0.6	47	0.5
Other Pac Isle	4	36.4	6	54.5	1	9.1	3	27.3	8	0.1	11	0.1
Other	1238	88.7	58	4.2	100	7.2	802	57.4	594	11.1	1396	14.7
TOTAL	5793	61.1	1917	20.2	1777	18.7	4143	43.7	5344	100.0	9487	100.0
Unduplicated Total											8394	

*Numbers may not add up due to rounding.
a/ Percentage of row Carryover + New Admits + Readmits total.
b/ Percentage of row Net Total + Discharge.
c/ Percentage of column.
d/ Less than .1 percent.
Net Total = Carryover + New Admits + Readmits - Discharge.
Total = Net Total + Discnarge.

Mental Health Field Assessment and Statistical Information System
REFERRAL SOURCE OF ADMISSIONS (DUPLICATED COUNT)
TABLE 6*

DIVISION

Period: 01/01/88 thru 12/31/88

REFERRAL SOURCE	New Admissions		Readmissions		Total	
	#	% a/	#	a/	#	b/
Community Programs						
Mental Health Center	51	26.42	142	73.58	193	59.20
Mental Health Community Program	20	33.90	39	66.10	59	18.10
Drug Treatment Program	4	57.14	3	42.86	7	2.15
Alcohol Treatment Program	10	90.91	1	9.09	11	3.37
CRSP	30	63.83	17	36.17	47	14.42
Nursing Home			9	100.00	9	2.76
Subtotal	115	35.28	211	64.72	326	8.83
Hospital						
General Hospital	194	38.72	307	61.28	501	61.78
Psychiatric Hospital	48	28.40	121	71.60	169	20.84
State Hospital			141	100.00	141	17.39
Subtotal	242	29.84	569	70.16	811	21.95
Private Professionals						
Psychiatric	64	51.61	60	48.39	124	44.77
Other Physician	73	79.35	19	20.65	92	33.21
Other Mental Health Professionals	35	72.92	13	27.08	48	17.33
Lawyer	8	61.54	5	38.46	13	4.69
Subtotal	180	64.98	97	35.02	277	7.50
Schools						
Public	218	81.34	50	18.66	268	57.26
Private	11	100.00			11	2.35
DOE Spec. Ed.	113	62.43	68	37.57	181	38.68
Community College	2	100.00			2	0.43
University	5	83.33	1	16.67	6	1.28
Subtotal	349	74.57	119	25.43	468	12.67

*Number may not add up due to rounding. a/ Percentage of Row. b/ Percentage of Column.

Mental Health Field Assessment and Statistical Information System

REFERRAL SOURCE OF ADMISSIONS (DUPLICATED COUNT)
TABLE 6*

(Continuation)
DIVISION

Period: 01/01/88 thru 12/31/88

REFERRAL SOURCE	New Admissions		# of Readmissions		Total	
	#	% a/	#	% a/	#	% b/
Individual						
Self	231	59.69	156	40.31	387	51.53
Family	182	70.00	78	30.00	260	34.62
Friend	84	84.85	15	15.15	99	13.18
Employer	1	50.00	1	50.00	2	0.27
Clergy	1	33.33	2	66.67	3	0.40
Subtotal	499	66.44	252	33.56	751	20.33
Government Agencies						
Law Enforcement	13	52.00	12	48.00	25	3.58
Adult Court	101	31.86	216	68.14	317	45.42
Family Court	93	63.27	54	36.73	147	21.06
Correction Agency	11	32.35	23	67.65	34	4.87
Probation and Parole	41	51.25	39	48.75	80	11.46
V.A.	6	46.15	7	53.85	13	1.86
Developmental Disabilities	3	75.00	1	25.00	4	0.57
Vocational Rehabilitation	16	80.00	4	20.00	20	2.87
Public Welfare	37	68.52	17	31.48	54	7.74
Military	3	75.00	1	25.00	4	0.57
Subtotal	324	46.42	374	53.58	698	18.90
Out of State	1	25.00	3	75.00	4	0.11
Other	207	57.66	152	42.34	359	9.72
Total	1917	51.89	1777	48.11	3694	100.00

*Number may not add up due to rounding.
a/ Percentage of Row.
b/ Percentage of Column.

Mental Health Field Assessment and Statistical Information System

REASON FOR DISCHARGE
TABLE 7*

DIVISION
PERIOD: 01/01/88 thru 12/31/88

REASON FOR DISCHARGE	#	%
Treatment Completed	1463	36.0
Transferred To ADMH Program	117	2.9
Non-compliance w/ Program Rules	44	1.1
Against Clinical Advice	36	0.9
Refused Treatment	219	5.4
Patient Moved	398	9.8
Incarcerated/Hospitalized	319	7.8
No Service Within Last 60 Days	1327	32.6
Disappeared--Whereabouts Unknown	114	2.8
Died	29	0.7
TOTAL	4066	100.0

*Numbers may not add up due to rounding.

REFUGEE SCREENING PROJECT

NARRATIVE

The Refugee/Immigrant Health (RIH) Project is administered by the State of Hawaii, Department of Health to provide for the coordination of health, tuberculosis and dental screening for Hawaii's refugee arrivals. The Project also maintains a refugee health registry to monitor the health status of Hawaii's refugee population and to collect health data for state and federal information purposes. The RIH Project monitors and coordinates the health data on high-risk immigrant arrivals. Funding is provided by the State of Hawaii, and by the federal government through the Centers for Disease Control.

Hawaii's total refugee population is an estimated 7,800 c/. Approximately 98% of this total have come from Southeast Asia (Vietnam, Laos, and Cambodia). Refugee arrivals in Fiscal Year 1988 included 334 new arrivals and 3 refugee migrants from other states still needing health assessment.

Of the 337 refugees needing health assessment, 97% received health screening. Ninety-nine percent (99%) of those screened had one or more notable health problems, including the following ranked by noted incidence:

Dental disease	92%
Need for immunizations	85%
Tuberculosis (positive skin test)	53%
Intestinal parasites	49%
Hepatitis B	
infectious	32%
immune (from prior exposure)	44%
susceptible	24%
Skin	19%
Anemia	18%
Eye	16%
Other	16%
Genito-urinary	13%

The RIH Project coordinates refugee health care screening and referral services between the Department of Health and other agencies, both public and private, such as voluntary resettlement programs, case management services, and private medical and dental providers.

Table 2 presents data for immigrants who are allowed into Hawaii with Class A, B, and C health conditions:

Class A: dangerous contagious disease or mental conditions
Class B: physical defect, disease, or disability serious in degree or permanent in nature amounting to a substantial departure from normal physical well-being
Class C: minor conditions

c/ - Estimated number of Southeast Asian refugees living in Hawaii totals 7,800 as of September, 1988 (source: Office of Refugee Resettlement, September, 1988).

TABLE 1

DEMOGRAPHIC BREAKDOWN OF REFUGEES ENTERING HAWAII (Primary Arrivals[a/])

July 1, 1987 - June 30, 1988

AGE (years)	Country of Origin								TOTAL	
	VIETNAM SEX		LAOS SEX		CAMBODIA SEX		OTHER[b/] SEX			
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Number	Rounded of Percent
Under 1 year	1	1	1	5	-	-	-	-	8	2%
1 - 4	1	5	16	14	-	-	-	-	36	11%
5 - 9	7	9	22	10	-	-	-	2	50	15%
10 - 14	11	4	12	5	-	-	-	-	32	10%
15 - 19	16	12	8	9	-	-	-	-	45	13%
20 - 34	27	28	17	20	-	-	-	1	93	28%
35 - 44	7	11	12	6	-	-	1	1	38	11%
45 - 64	11	9	3	1	-	-	-	-	24	7%
65 or Older	-	3	1	4	-	-	-	-	8	2%
TOTAL Number	81	82	92	74	-	-	1	4	334	
TOTAL Percent	24%	25%	28%	22%	-	-	.3%	1%		

a/ - Primary arrivals refers to U.S. arrival via Hawaii; does not include secondary refugee arrivals from other states. Hawaii average monthly refugee arrivals for FY 1988 was 27.8 persons.

b/ - Included 3 Poles and 2 Afghans.

TABLE 2

IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS

July 1, 1987 - June 30, 1988

TOTAL	KOREA		M 38				F 24			PHILIPPINES		M 190				F 225		
AGES	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90
	1 (2%)	2 (5%)	7 (11%)	14 (23%)	8 (13%)	11 (18%)	13 (21%)	3 (5%)	2 (3%)	22 (5%)	18 (4%)	38 (9%)	41 (9%)	40 (9%)	93 (21%)	96 (22%)	43 (10%)	6 (1%)
CLASS	A		B				C			A		B				C		
Tuberculosis	-		59 (95%)				-			184 (41%)		252 (57%)						
Cardial/Blood/ Vascular	-		5 (8%)				-			-		60 (13%)				104 (23%)		
Eye	-		-				1 (2%)			-		28 (6%)				185 (42%)		
Dental	-		-				-			-		1 (0.2%)				121 (27%)		
Ear	-		-				-			-		6 (1%)				10 (2%)		
Post-operation	-		-				1 (2%)			-		2 (0.4%)				42 (9%)		
Musculo-Skeletal	-		1 (2%)				-			-		4 (0.9%)				19 (4%)		
Genito-Urinary	-		1 (2%)				-			-		1 (0.2%)				1 (0.2%)		
Skin	-		1 (2%)				1 (2%)			-		1 (0.2%)				113 (25%)		
Respiratory	-		3 (5%)				-			-		25 (6%)				11 (2%)		
Intestinal/ Stomach	-		-				-			-		2 (0.4%)				32 (7%)		
Mental	-		-				-			2 (0.4)		1 (0.2%)				1 (0.2%)		
Nervous	-		-				-			-		-				1 (0.2%)		
Lymphatic	-		-				-			-		1 (0.2%)				-		
Other	-		4 (6%)				-			-		8 (2%)				24 (5%)		
Column Total			74				3			186		392				665		

TABLE 2-Cont'd

TOTAL	HONG KONG	M 7				F 16			OTHER	M 7				F 16			553
AGES	0-10 –	11-20 –	21-30 2 (9%)	31-40 5 (22%)	41-50 7 (30%)	51-60 3 (13%)	61-70 3 (13%)	71-80 3 (13%)	81-90 –	0-10 1 (4%)	11-20 1 (4%)	21-30 5 (22%)	31-40 3 (13%)	41-50 1 (4%)	51-60 5 (22%)	61-70 3 (13%)	71-80 –	81-90 –	Row Total
CLASS	A		B			C			A		B			C			
Tuberculosis	1 (4%)		22 (96%)			–			1 (4%)		20 (87%)			–			540 (98%)
Cardial/Blood/ Vascular	–		2 (9%)			–			–		1 (4%)			1 (4%)			173 (31%)
Eye	–		–			–			–		–			2 (9%)			216 (39%)
Dental	–		1 (4%)			–			–		–			–			123 (22%)
Ear	–		–			–			–		–			–			16 (3%)
Post-operation	–		1 (4%)			–			–		–			1 (4%)			47 (8%)
Musculo-Skeletal	–		1 (4%)			–			–		--			1 (4%)			26 (5%)
Genito-Urinary	–		–			–			–		–			–			3 (0.5%)
Skin	–		–			–			–		–			–			116 (21%)
Respiratory	–		1 (4%)			–			–		–			–			40 (7%)
Intestinal / Stomach	–		–			–			–		–			–			34 (6%)
Mental	–		–			–			–		–			–			4 (0.7%)
Nervous	–		–			–			–		–			–			1 (0.2%)
Lymphatic	–		–			–			–		–			–			1 (0.2%)
Other	–		–			–			–		–			–			36 (7%)
Column Total	1		28			–			1		21			5			

Percentages are based on the totals from each country except for the far right column, which is based on the combined total of all countries.

WAIMANO
TRAINING SCHOOL
AND
HOSPITAL DIVISION

WAIMANO TRAINING SCHOOL AND HOSPITAL

SUMMARY

The population of Waimano continues to decline, reflecting the emphasis on deinstitutionalization. Community placements since 1983 have been primarily to the Home & Community Based and the Community ICF-MR programs. These programs are designed to provide more support services for clients. As lower functioning residents are placed in the community, their adaptation to the new environment requires more comprehensive and intense case management, day health programs, habilitation services and respite care.

The outlook for Waimano's resident population will continue to show major declines over the next three to five years. Actual placements of residents will depend on the successful development of community programs by private providers.

Table 1 shows a population decrease of 58 residents from 260 on July 1, 1987 to 202 on June 30, 1988. There were two new admissions.

Table 2 shows the category of classification remain about the same as in previous years, with the predominance of residents in the "Profound" category.

TABLE 1
WAIMANO TRAINING SCHOOL & HOSPITAL
STATISTICAL MOVEMENT OF PATIENTS BY FISCAL YEAR
STATE OF HAWAII: FISCAL YEAR 1987-88

Waimano Population	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Institution								
Patients in residence at start	423	397	385	375	348	328	288	260
Patients added during the year	63	53	31	31	12	1	4	4
Admissions during the year	7	6	10	2	2	-	-	2
Returns from community placement	56	47	21	29	10	1	4	2
Patients removed from hospital during the year	89	65	41	58	32	41	32	62
Direct discharge	2	-	2	-	-	1	-	-
Deaths in hospital	7	8	5	4	7	3	8	6
Community placements								
Home & Comm. Based Svcs.	...	...	...	16	16	13	10	10
Small ICF-MR	...	...	...	...	...	20	7	32
Other comm. placements	80	57	34	38	9	4	7	14
Patients in residence at end of year	397	385	375	348	328	288	260	202

TABLE 2
RESIDENT POPULATION, WAIMANO, JUNE 30
DISTRIBUTION BY YEAR AND MEASURED INTELLIGENCE
STATE OF HAWAII: FISCAL YEAR 1987-88

	Resident Population on June 30							
	1981	1982	1983	1984	1985	1986	1987	1988
Total	397	385	375	348	323	283	260	202
I. Mild Educable	10	13	12	8	7	6	7	5
II. Moderate Trainable	29	26	26	25	23	21	20	18
III. Severe	53	53	59	58	51	40	32	29
IV. Profound	305	293	278	257	247	221	201	150
Borderline	-	-	-	-	-	-	-	-
Undetermined Intelligence	-	-	-	-	-	-	-	-

RESEARCH AND STATISTICS OFFICE
STATE DEPARTMENT OF HEALTH
P.O. Box 3378
Honolulu, Hawaii 96801

ADDRESS CORRECTION REQUESTED

BOUND
PRINTED MATTER
BLK RT.
U.S. POSTAGE
PAID
Honolulu, HI
Permit No. 597

Cheryl Waldman
Congressional Information Serv
4520 East-West Highway
Bethesda, MD 20814